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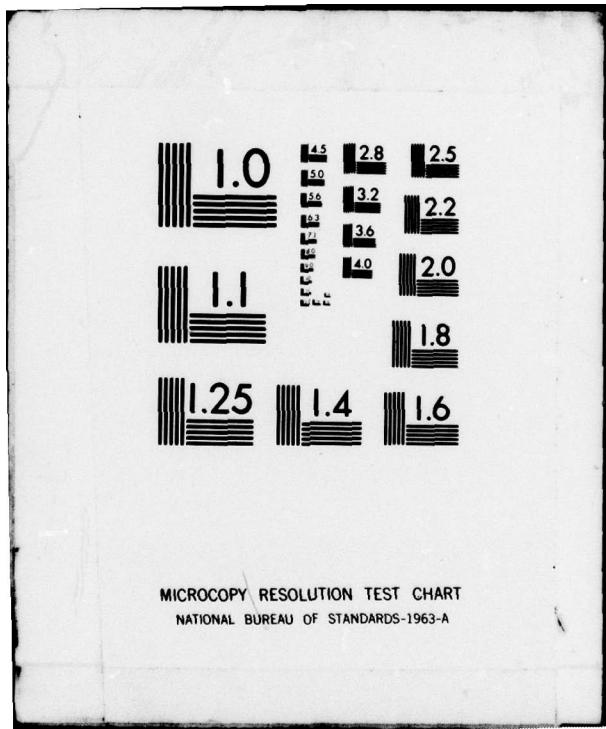
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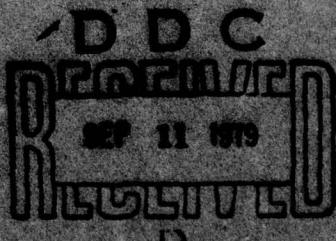
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**USAF BIOENVIRONMENTAL NOISE
DATA HANDBOOK**
Volume 137
F-101B Aircraft, Near and Far-Field Noise

October 1978

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AEROSPACE MEDICAL RESEARCH LABORATORY
AEROSPACE MEDICAL DIVISION
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433

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FOR THE COMMANDER



HENNING E. VON GERSDORFF

Director

Bioastronautics and Biostimulation Division
Aerospace Medical Research Laboratory
Air Force MRC/AMRL/BSB
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pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise levels, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distance from the source. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application", AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc.

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PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723107, Technology to Define and Assess Environmental Quality of Noise, from Air Force Operations. The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Mr. Harald Hille for his assistance in acquiring the raw data, Mr. Henry Mohlman, Mr. Keith Kettler and Mr. Fred Lampley of the University of Dayton for assistance in the mechanics of data processing and Mrs. Peggy Massie for typing and assistance in preparation of graphics.

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INTRODUCTION

The USAF F-101B is a long-range, all-weather supersonic fighter-interceptor aircraft powered by two J57-P-55 turbojet engines. The aircraft was manufactured by the McDonnell Aircraft Corporation and the engines by United Aircraft, Pratt and Whitney Division.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the F-101B aircraft.

This volume is one of a series published by the Aerospace Medical Research Laboratory (AMRL) under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and ground support equipment. The far-field, community-type noise data in the handbook describe the noise produced during *ground operations* of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15 C temperature, 70% rel humidity, 0.760 meters Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to: AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVON 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.
2. Cole, John N. *USAF Bioenvironmental Noise Data Handbook Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH, 1975.

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on the F-101B aircraft during ground runup operations of its turbojet engines. For these tests, the aircraft was located on a trim pad at Tyndall AFB. Table 1 gives the surface meteorological conditions and the engine power conditions. The ground-crew chief selected power conditions and near-field locations generally used during routine maintenance or engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand-held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all of the noise samples on magnetic tape. During analysis of each sample, he determined the root-mean square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location.

Figure 1 shows the ten numbered near-field locations where ground crews are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations in the near-field are difficult since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.).

Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the measurement locations and test conditions. For example, the designator 1/A means ground crew location 1 and test conditions A.

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the F-101B aircraft at the ten ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3 which are widely used to assess the effects of noise on personnel and their performance.

All near-field data are for the meteorological conditions at the time of test but are valid for all typical airbase meteorology because of the short sound propagation distances involved.

TABLE 1
MEASUREMENT LOCATIONS AND TEST CONDITIONS
FOR NEAR-FIELD NOISE MEASUREMENTS

F-101B Aircraft, Ground Runup, Tyndall AFB
6 June 1978
Tail #80303

Ground Crew Location

1	Air Hose Removal
2	Engine Observation
3	Marshal
4	Electrical Disconnect
5	Pin Pull FLG
6	Accumulator Check
7	Leak Check
8	Wheel Chock
9	Flap Check
10	Trim Adjustment

Aircraft Engine Operation

A	Idle
B	80% RPM
C	90% RPM
D	Military Power
E	Afterburner Power

Meteorology

Temperature	27.7 C
Bar Pressure	0.762 M Hg
Rel Humidity	82 %
Wind — Speed	2.6 M/Sec (5 Kts)
— Direction	235 Deg

(3)

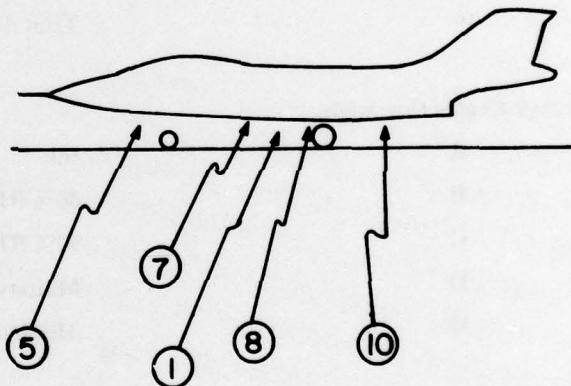
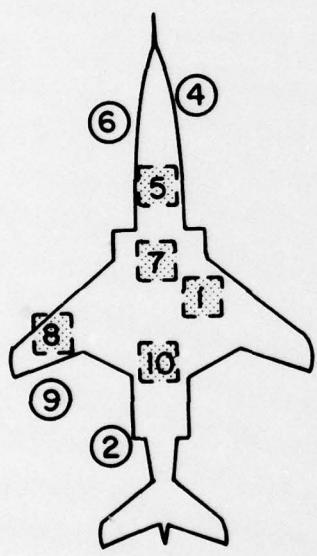


Figure 1. Near-Field Measurement Locations on Remote Trim Pad at Tyndall AFB FL

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired far-field data during a one hour test period, thus keeping similar meteorological conditions throughout the test. Figure 2 shows the ground runup pad, ground cover aircraft orientation and the 19 microphone measurement sites on a semicircle. The center of the 75 meter radius semicircle used in surveying the J57-P-55 engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through the engines' exhaust-nozzle exits. The ground runup area did not have a blast deflector; therefore, the engines' exhausts were in a "free-flow" condition.

Table 4 provides cockpit readouts of some engine characteristics (% RPM, fuel flow, etc.) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All microphone measurement sites are in the acoustic far-field of the source where the sound wavefronts spherically diverge and the noise source may be regarded as a point source.

A portable microphone/tape-recorder system was used to sequentially record the noise at each far-field location. The microphone was attached to a hand-held pole, pointed at the source (0° angle of incidence) and vertically scanned from 0.5 to 3 meters for a period of 5-10 seconds during data acquisition at each microphone location. These samples were then time-integrated to derive a root-mean-square sound pressure level. Vertical scanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone.

RESULTS

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the F-101B aircraft in a standard format.

Figure 4 and Table 5 present two basic acoustic measures, the acoustic power level and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure which describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

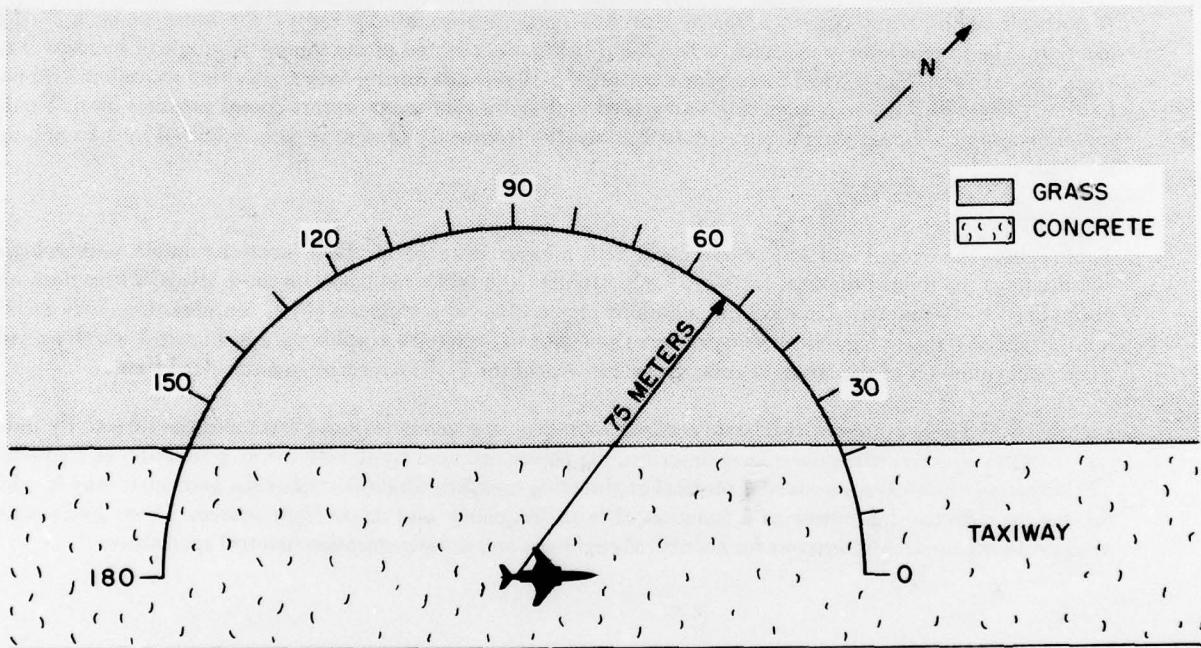


Figure 2. Far-Field Measurement Locations on Remote Trim Pad at Tyndall AFB FL

Estimates of noise characteristics for intermediate power settings (e.g., 88% engine) and/or different number of engines operating (e.g., single engine) can be determined as explained in Volume 1 of this handbook.

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

No data are presented at the 170 and/or 180 degree locations at an engine setting above idle power because of turbulent air flow behind the aircraft. Typical A-weighted levels for these angles are 10 to 20 dBA below those at the 160/170 degree location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 5 at idle power).

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)
2 1/3 OCTAVE BAND

NOISE SOURCE/SUBJECT:	OPERATION:
F-101B AIRCRAFT	
GROUND CREW	
NEAR FIELD NOISE LEVELS	

FREQ (HZ)	3/A	3/B	3/C	3/D	3/E	4/A	4/B	LOCATION/CONDITION			7/A	7/B	7/C	7/D	7/E
								5/A	5/B	5/C					
25	69<	75	81	84	97	75	77	79	83	84	84	90	92	97	103
31.5	77	77	83	86	97	82	82	81	85	84	83	89	94	97	105
40	72<	77<	84	87	99	76<	79	79	83	83	87	92	99	101	110
50	67<	79	86	89	100	74<	74	79	83	83	87	95	106	102	113
63	70<	80	87	91	102	75<	80	82	86	86	87	95	104	104	111
80	70<	80<	89	93	104	75<	81<	81	84	84	87	93	103	104	112
100	72<	84	91	96	106	76<	81	80	83	86	89	97	105	109	117
125	74<	85	94	98	106	79	81	84	84	86	86	99	107	110	117
160	78	86	95	101	109	81	83	86	87	90	91	98	107	110	118
200	76	86	95	100	109	82	84	86	86	92	99	107	111	117	
250	77	88	98	101	112	83	86	86	88	88	96	93	102	110	119
315	83	88	97	102	109	83	84	89	91	100	93	103	111	116	119
400	81	86	94	101	107	88	89	93	96	100	92	99	110	114	118
500	78	84	94	101	105	91	94	97	98	102	93	99	108	112	117
630	80	84	92	99	104	88	90	98	98	103	92	100	109	114	118
800	89	92	95	100	105	94	92	100	103	108	95	100	111	117	120
1000	95	96	95	101	98	99	101	98	103	106	113	99	102	112	121
1250	95	98	96	97	100	95	96	102	104	112	97	103	110	115	120
1600	92	103	97	96	100	94	95	101	104	110	96	112	111	116	119
2000	95	102	107	99	101	97	98	105	108	114	97	107	114	115	118
2500	92	101	108	100	100	94	94	101	103	109	93	104	114	113	117
3150	96	104	101	98	100	99	100	106	109	114	98	108	110	113	117
4000	91	103	102	96	100	93	92	100	103	106	92	107	110	112	116
5000	90	101	102	95	96	91	90	98	101	107	88	103	110	110	113
6300	88	100	100	93	93	89	89	97	99	104	87	102	106	109	112
8000	87	99	98	91	92	89	88	96	98	104	86	100	107	108	111
10000	84	97	95	88	88	85	85	93	94	100	82	98	104	106	108
OVERALL	103	111	114	112	119	106	106	113	115	121	107	117	123	127	131

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE : MEASURED SOUND PRESSURE LEVEL (DB)
2
 1/3 OCTAVE BAND

NOISE SOURCE/SUBJECT:	OPERATION:										LOCATION/CONDITION			
	8/A	8/B	8/C	8/D	8/E	6/A	9/B	9/C	9/D	9/E				
F-101B AIRCRAFT	25	85	91	94	96	108	85	89	94	98	108			
GROUND CREW	31.5	94	91	94	99	109	93	89	96	100	109			
NEAR FIELD NOISE LEVELS	40	86	91	97	100	109	69	91	98	100	111			
	50	63	91	101	102	110	64	90	100	101	111			
	63	82	92	101	103	113	85	93	101	105	113			
	80	87	93	103	105	114	87	94	101	106	115			
	100	89	98	105	108	117	66	95	104	107	116			
	125	89	99	109	111	119	68	99	105	109	116			
	160	91	97	106	110	118	90	99	107	111	117			
	200	85	95	107	110	117	87	99	108	112	118			
	250	87	95	109	111	118	88	101	109	114	121			
	315	86	97	109	111	118	91	104	112	115	120			
	400	92	99	110	112	119	93	103	112	117	122			
	500	92	100	111	113	121	93	102	112	116	122			
	630	90	100	110	115	122	90	102	113	117	122			
	800	91	100	112	117	123	91	104	113	118	123			
	1000	93	99	111	116	122	94	104	112	117	122			
	1250	92	99	111	115	120	92	105	111	116	121			
	1600	90	103	111	115	121	91	106	111	116	121			
	2000	90	100	112	114	121	92	106	111	117	121			
	2500	86	97	110	113	119	88	104	111	114	119			
	3150	92	98	109	112	118	92	103	109	114	118			
	4000	88	96	109	112	117	86	101	108	113	118			
	5000	83	95	106	110	115	83	98	106	111	116			
	6300	81	95	105	108	114	82	98	105	110	115			
	8000	82	92	105	107	113	84	96	104	109	113			
	10000	79	90	102	105	111	81	95	101	107	111			
OVERALL	103	112	122	126	132	104	115	123	126	133				

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (dB)
2
 1/3 OCTAVE BAND

NOISE SOURCE/SUBJECT	OPERATION:	LOCATION/CONDITION					
		10/B	10/C	10/D	10/E	1/B	2/A
F-101B AIRCRAFT							
GROUND CREW							
NEAR FIELD NOISE LEVELS							
FREQ (HZ)							
25	93	97	99	109	83	93	
31.5	90	98	99	110	89	100	
40	91	98	100	111	88	95	
50	92	99	102	110	83	90	
63	96	101	105	113	83	86	
80	98	105	107	116	85	89	
100	99	106	110	118	85	93	
125	99	106	109	119	84	97	
160	98	107	111	119	83	102	
200	100	109	112	120	83	99	
250	99	109	112	119	90	97	
315	99	107	112	118	87	101	
400	100	106	112	119	87	101	
500	101	110	112	119	88	103	
630	101	111	115	120	84	98	
800	102	112	118	121	85	98	
1000	101	112	117	121	90	95	
1250	101	111	115	120	88	94	
1600	104	110	115	120	87	92	
2000	102	111	114	120	87	91	
2500	100	111	113	118	83	89	
3150	101	109	113	118	88	102	
4000	100	106	112	117	83	100	
5000	98	106	109	114	79	92	
6300	97	105	108	114	77	94	
8000	94	104	108	112	76	96	
10000	92	100	105	110	74	95	
OVERALL	114	122	126	132	100	112	

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

MEASURED SOUND PRESSURE LEVEL (dB)										IDENTIFICATION					
2 OCTAVE BAND										OMEGA 3.2					
NOISE SOURCE/SUBJECT:										TEST 78-011-001					
F-101B AIRCRAFT										RUN 01					
GROUND CREW										18 JAN 79					
NEAR FIELD NOISE LEVELS										PAGE J1					
										LOCATION/CONDITION					
										5/B 5/A 6/B 6/A 7/B 7/A 7/C 7/D 7/E					
FREQ (HZ)	3/A	3/B	3/C	3/D	3/E	4/A	4/B	5/A	5/B	6/B	7/A	7/B	7/C	7/D	7/E
31.5	79	81	88	91	103	84	85	85	89	87	92	95	101	103	112
63	74	84	92	96	107	80	85	85	87	89	92	99	109	108	117
125	80	89	98	103	112	84	87	88	89	92	94	103	111	114	122
250	85	92	102	106	115	87	89	93	93	102	97	106	114	119	123
500	85	90	98	105	110	94	97	101	102	107	97	104	114	118	123
1000	99	101	100	104	107	101	101	101	107	109	116	102	107	116	121
2000	98	107	111	103	105	100	101	107	110	116	100	113	118	120	123
4000	-	98	107	106	104	101	100	107	110	115	99	111	115	117	120
8000	-	92	104	103	95	96	93	92	100	102	108	90	105	111	112
OVERALL	103	111	114	112	119	106	106	113	115	121	107	117	123	127	131

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)
2 OCTAVE BAND

NOISE SOURCE/SUBJECT	OPERATION:	LOCATION/CONDITION								
		8/A	8/B	8/C	8/D	8/E	6/A	9/B	9/C	9/D
F-101B AIRCRAFT		95	96	100	103	113	95	94	101	104
GROUND CREW		69	97	106	108	117	90	97	105	109
NEAR FIELD NOISE LEVELS		103	112	114	123	123	103	110	114	118
		101	113	115	122	94	106	115	118	124
		101	115	116	126	97	107	117	121	127
		104	116	121	126	97	109	117	122	127
		105	116	119	125	95	110	116	121	125
		102	113	116	122	94	106	113	118	122
		97	109	112	117	87	101	106	113	116
OVERALL		103	112	122	126	132	104	115	123	128
										133

IDENTIFICATION:

OMEGA 3.2
TEST 78-011-001
RUN 02

16 JAN 79

PAGE J2

TABLE I MEASURED SOUND PRESSURE LEVEL (0B) OCTAVE BAND

TABLE 2 MEASURED SOUND PRESSURE LEVEL (0B) OCTAVE BAND						
NOISE SOURCE/SUBJECT:	OPERATION:	LOCATION/CONDITION	10/B	10/C	10/D	10/E
F-101B AIRCRAFT			10/B	10/C	10/D	10/E
GROUND CREW						
NEAR FIELD NOISE LEVELS						
FREEQ (HZ)			10/B	10/C	10/D	10/E
31.5	96	102	104	115	92	101
63	101	107	110	119	89	93
125	103	111	115	123	89	104
250	104	113	117	124	92	104
500	105	114	118	124	91	106
1000	106	116	121	125	93	101
2000	107	115	119	124	91	95
4000	104	112	116	121	90	104
6000	100	108	112	117	81	100
OVERALL	114	122	126	132	100	112

TABLE 3 MEASURES OF HUMAN NOISE EXPOSURE

NOISE SOURCE/SUBJECT		OPERATION:		IDENTIFICATION:	
F-101B AIRCRAFT		TEST 70-011-001		OMEGA 3 ^a	
GROUND CREW		RUN 01		16 JAN 79	
NEAR FIELD NOISE LEVELS		PAGE H1			
3/A	3/B	3/C	3/D	3/E	LOCATION/CONDITION
4/A	4/B	4/C	4/D	4/E	5/A 5/B 6/B 7/A 7/B 7/C 7/D 7/E
HAZARD/PROTECTION	C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN OBC) AT EAR	A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN OBA) AT EAR	MAXIMUM PERMISSIBLE TIME (T IN MINUTES)	FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)	
NO PROTECTION					
OASLC	103	111	113	112	106 112 115 121 107 117 123 126 131
OASLA	104	112	114	110	106 107 113 116 122 106 117 123 126 129
T	15	3.6	2.7	5	3.2 11 9 3.2 P P 11 P P
MINIMUM QPL EAR MUFFS					
OASLC*	75	84	87	86	95 78 79 85 87 93 81 90 97 101 106
T	960	480	285	240	71 960 960 404 285 101 807 170 50 25 11
AMERICAN OPTICAL 1700 EAR MUFFS					
OASLA*	69	78	81	83	91 72 73 79 81 87 75 85 92 96 101
T	960	960	807	571	143 960 960 807 285 960 404 120 50 25
V-51R EAR PLUGS					
OASLC*	76	82	83	84	90 79 79 85 87 94 80 88 95 100 104
T	960	679	571	480	170 960 960 404 285 85 960 240 71 30 15
AMERICAN OPTICAL 1700 EAR MUFFS PLUS					
OASLA*	63	69	70	70	75 66 66 72 74 81 67 75 82 86 90
T	960	960	960	960	960 960 960 807 960 960 679 339 170
H-133 GROUND COMMUNICATION UNIT					
OASLA*	77	85	87	82	86 80 86 89 95 80 90 95 98 102
T	960	404	285	679	339 960 960 339 202 71 960 170 71 42 21
COMMUNICATION	PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)				
PSIL	94	99	103	104	108 98 100 105 107 113 100 108 116 120 123
ANNOYANCE	PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PN008)				
TONE CORRECTION (C IN DB)					
PNLT	118	125	130	124	127 122 122 126 131 136 122 133 137 139 142
C	1	0	2	0	0 2 2 2 2 2 2 2 0 0 0

^a BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.
P ADDITIONAL EAR PROTECTION REQUIRED.

TABLE: MEASURES OF HUMAN NOISE EXPOSURE

3

NOISE SOURCE/SUBJECT:		OPERATION:		IDENTIFICATION:	
F-101B AIRCRAFT		TEST 78-011-001		OMEGA 3.2	
GROUND CREW		RUN 02		18 JAN 79	
NEAR FIELD NOISE LEVELS		PAGE H2			
		LOCATION/CONDITION			
8/A		8/B	8/C	8/D	8/E
6/A		6/B	6/C	6/D	6/E
9/B		9/C	9/D	9/E	

HAZARD/PROTECTION					
G-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR					
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR					
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)					
NO PROTECTION					
OASLC					
OASLC	103	111	122	132	115
OASLA	101	110	121	131	115
T	25	5	P	P	2.2
MINIMUM QPL EAR MUFFS					
OASLA*	78	86	97	100	107
T	960	339	50	30	9
AMERICAN OPTICAL 1700 EAR MUFFS					
OASLA*	73	81	92	95	102
T	960	807	120	71	21
V-51R EAR PLUGS					
OASLA*	76	84	95	99	105
T	960	480	71	36	13
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS					
OASLA*	62	70	81	85	92
T	960	960	807	404	120
H-133 GROUND COMMUNICATION UNIT					
OASLA*	74	83	94	97	103
T	960	571	85	50	16
COMMUNICATION PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)					
PSIL	95	105	116	119	126
ANNOYANCE PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)					
TONE CORRECTION (C IN DB)					
PNLT	117	125	135	138	144
C	2	1	1	0	0
* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.					
P ADDITIONAL EAR PROTECTION REQUIRED.					

TABLE: MEASURES OF HUMAN NOISE EXPOSURE

3

NOISE SOURCE/SUBJECT	OPERATION*					
F-101B AIRCRAFT						
GROUND CREW						
NEAR FIELD NOISE LEVELS						

10/8 10/C 10/D 10/E 1/B 2/A

HAZARD/PROTECTION
 C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR
 A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR
 MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

NO PROTECTION		LOCATION/CONDITION				
OASLC	113	122	126	132	100	111
OASLA	112	121	125	130	98	109
T	3.0	P	P	P	42	6
MINIMUM QPL EAR MUFFS						
OASLA*	86	97	100	107	74	87
T	240	50	30	9	960	285
AMERICAN OPTICAL 1700 EAR MUFFS						
OASLA*	83	91	95	102	70	82
T	571	143	71	21	960	679
V-51R EAR PLUGS						
OASLA*	86	95	100	104	72	84
T	339	71	30	15	960	480
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS						
OASLA*	72	81	86	91	59	69
T	960	807	339	143	960	960
H-133 GROUND COMMUNICATION UNIT						
OASLA*	85	94	98	103	71	82
T	404	85	42	18	960	679

COMMUNICATION

PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)
 PSIL 106 115 119 125 92 101

ANNOYANCE

PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNOB)
 TONE CORRECTION (C IN DB)
 PNLT 126 135 138 144 113 126
 C 0 0 0 0 2 2

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.
 P ADDITIONAL EAR PROTECTION REQUIRED.

TABLE 4
TEST CONDITIONS
FOR FAR-FIELD NOISE MEASUREMENTS
F-101B Aircraft, Ground Runups, Tyndall AFB FL
6 June 1978
Tail #80303

Aircraft Engine Operation

Idle (#1 Engine Off)	#2 (Right) Engine 62 % RPM, Core Speed N/A Engine Pressure Ratio 280 C, Exhaust Gas Temperature 1150 LBS/HR, Fuel Flow
80% RPM (#1 Engine Off)	#2 (Right) Engine 80 % RPM, NC 1.25 EPR 320 C, EGT 2450 LBS/HR, FF
90% RPM (#1 Engine Off)	#2 (Right) Engine 90 % RPM, NC 1.58 EPR 420 C, EGT 4350 LBS/HR, FF
Military Power (#1 Engine Off)	#2 (Right) Engine 95.5 % RPM, NC 2.10 EPR 540 C, EGT 7600 LBS/HR, FF
Afterburner Power (#1 Engine Off)	#2 (Right) Engine 96 % RPM, NC 2.04 EPR 530 C, EGT 7600 LBS/HR, FF plus Afterburner

Meteorology

Temperature	27.7 C
Bar Pressure	0.762 M Hg
Rel Humidity	82 %
Wind — Speed	2.6 M/Sec (5 Kts)
— Direction	235 Deg

TABLE 5
MEASURED SOUND PRESSURE LEVEL (dB)
1/3 OCTAVE BAND
DISTANCE = 75 METERS

NOISE SOURCE/SUBJECT:	OPERATION:										METEOROLOGY										IDENTIFICATION:	
	IDLE	62% RPM	SINGLE ENGINE	FREE FLOW	TEMP	BAR PRESS	M HG	REL HUMID	TEST 76-011-001	RUN 01	OMEGA 1.4	PAGE 2										
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180			
25	65<	65<	63<	63<	64<	64<	65<	65<	67<	67<	64<	63<	63<	62<	62<	62<	62<	62<	62<	64<	64<	
31.5	71<	68<	70<	68<	70<	73	72	75	74	73	73	72	72	73	72	72	72	72	72	70	61<	
40	50	63	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	56<	
63	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	56<	
100	69<	71<	69<	70<	71<	69<	70<	69<	70<	70<	71<	71<	71<	71<	71<	71<	71<	71<	71<	71<	64<	
125	67<	69<	73	71	71	72	73	72	74	73	73	73	73	73	73	73	73	73	73	72	70	
160	69	73	71	72	70	69	69	69	70	69	70	72	72	72	72	72	72	72	72	71	61<	
200	71	74	72	70	69	69	69	69	69	69	70	72	72	72	72	72	72	72	72	71	61<	
250	73	75	74	72	70	70	70	67	68	68	68	68	68	68	68	68	68	68	68	68	62<	
315	73	75	73	72	67	69	68	66	66	66	67	67	68	68	68	68	68	68	68	68	57<	
400	75	77	75	74	69	68	68	68	68	68	70	70	71	71	71	70	70	70	70	70	61<	
500	77	78	76	76	69	68	68	68	68	68	69	70	71	70	70	69	69	69	69	69	55<	
630	77	79	77	76	71	68	68	67	65	69	67	68	68	68	68	68	68	68	68	68	53<	
800	80	82	79	75	71	68	65	65	65	70	67	67	69	67	64	65	65	65	65	65	49<	
1000	83	86	80	78	75	75	70	67	71	65	66	66	63	65	67	67	67	67	67	67	50<	
1250	81	84	76	79	75	73	74	71	66	70	64	67	60	62	66	66	66	66	66	66	52<	
1600	81	84	76	77	74	73	75	71	67	70	62	66	58	59	64	64	65	65	65	65	50<	
2000	86	88	85	81	77	79	74	67	70	59	63	55	57	60	62	61	55	55	55	55	47<	
2500	81	83	82	80	78	73	71	64	67	57	61	54	53	58	59	59	59	59	59	59	44<	
3150	85	87	86	86	84	77	79	77	67	71	64	69	61	70	66	65	65	65	65	65	53<	
4000	82	86	82	84	79	74	72	65	67	58	62	57	54	63	61	59	59	59	59	59	46<	
5000	79	82	78	78	75	71	70	63	66	58	61	56	53	59	58	58	58	58	58	58	43<	
6300	77	80	76	77	73	69	66	67	61	65	66	63	56	53	59	59	59	59	59	59	46<	
8000	74	77	74	74	71	66	65	64	65	60	63	56	53	59	57	58	58	58	58	58	44<	
10000	70	73	69	70	67	62	62	58	58	56	61	52	51	56	54	54	54	54	54	54	49<	
OVERALL	93	95	93	92	89	86	86	84	82	83	81	82	82	81	82	82	81	82	81	81	70	

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
5 DISTANCE = 75 METERS

NOISE SOURCE/SUBJECT:		OPERATION:						METEOROLOGY:						IDENTIFICATION:					
		80% RPM			SINGLE ENGINE			TEMP = 28 C			BAR PRESS = .762 HG			OMEGA 1.4					
		FREE FLOW						REL HUMID = 82 %						TEST 78-013-001					
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	66<	66<	68<	68<	69<	62<	65<	69<	66<	65<	66<	66<	68<	73<	75	79	78		
31.5	67<	66<	67<	66<	69<	68<	68<	72	70<	69<	70<	71	72	77	80	81	83		
40	67<	68<	68<	70<	71<	74<	74<	74<	72<	73<	72<	74<	78<	81	84	86	85		
50	68<	69<	69<	72<	72<	72<	72<	76	72<	73<	76	76	78	82	87	88	87		
63	70<	71<	73<	73<	74<	73<	74<	74<	76<	75<	75<	77<	81	86	90	90	90	87	
80	71<	73<	74<	76<	74<	76<	75<	77<	77<	76<	77<	77<	79<	83	87	92	94	98	
100	73<	75<	78<	78<	78<	76<	76<	78<	78<	79<	79<	78<	84	86	94	95	95	98	
125	76	76	79	79	78	77	77	79	79	80	81	83	85	86	94	95	95	96	
160	77	78	79	80	78	78	78	80	81	80	81	83	84	87	88	93	94	94	
200	77	79	80	80	77	77	80	80	81	80	83	84	87	89	90	91	90	90	
250	79	82	81	79	78	77	79	80	81	82	84	84	86	89	90	91	91	91	
315	79	80	80	78	76	75	76	78	78	79	81	84	87	88	89	86	86	87	
400	80	81	80	80	75	75	76	76	76	79	81	84	87	87	88	84	84	87	
500	80	82	81	79	74	74	73	75	75	78	80	84	85	85	86	83	83	84	
630	81	83	81	79	76	76	75	74	75	78	82	84	83	85	80	85	80	85	
800	82	83	83	79	78	78	79	78	79	79	83	84	83	85	80	85	80	84	
1000	81	84	84	80	79	78	81	79	77	78	82	84	82	82	83	82	83	82	
1250	83	86	87	82	80	81	83	83	83	82	84	84	83	83	83	83	83	83	
1600	91	92	93	89	89	86	86	87	83	82	84	85	82	82	82	82	82	82	
2000	89	90	91	88	87	84	85	82	82	81	82	84	81	81	81	81	81	81	
2500	88	89	87	86	85	83	80	82	80	81	81	84	81	84	81	85	80	84	
3150	95	95	96	94	93	87	89	85	83	81	80	83	77	78	80	74	73	73	
4000	90	91	92	90	89	83	84	82	81	79	81	75	77	78	73	70	70	70	
5000	89	91	91	88	87	84	83	82	81	80	82	84	81	82	79	76	71	71	
6300	88	90	90	87	84	81	82	79	79	78	80	82	79	81	79	76	71	71	
8000	86	88	86	88	84	81	80	78	78	76	77	77	78	73	74	72	72	72	
10000	82	85	82	85	84	81	80	78	78	76	77	75	76	72	73	70	55	55	
OVERALL	100	101	102	99	98	94	95	94	94	93	96	97	97	99	102	102	96	96	

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)

1/3 OCTAVE BAND
5 DISTANCE = 75 METERS

NOISE SOURCE/SUBJECT:		OPERATION:		METEOROLOGY:																
		(90% RPM	(SINGLE ENGINE	TEMP = 28 C			BAR PRESS = .762 MM HG			REL HUMID = 82 %			TEST 78-011-001							
		(FREE FLOW)										RUN 03							
FREQ	(HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	72<	71<	72<	73<	75	76	77	76	77	78	79	77	78	79	82	86	89	89	91	
31.5	75	75	74	76	77	77	76	79	80	81	83	82	81	83	82	85	88	91	92	92
40	75<	75<	76<	76<	76	79	80	83	81	83	82	84	84	85	87	92	95	95	94	
50	76	76	78	76	80	81	84	82	84	84	84	86	86	86	88	95	98	98	99	94
63	77<	78<	79	81	81	81	85	83	83	86	86	86	86	87	92	97	97	102	100	95
80	80<	81	82	82	82	84	84	87	85	85	85	86	86	88	89	93	100	105	103	98
100	82	82	85	84	85	86	86	86	87	88	88	89	89	90	92	97	102	106	105	99
125	85	85	86	85	86	86	86	86	86	86	86	86	86	89	91	93	98	104	106	105
160	86	86	87	86	85	87	86	85	87	90	89	89	90	93	94	99	104	105	105	100
200	87	88	87	87	86	88	86	92	90	90	92	90	92	94	96	100	106	103	106	99
250	88	89	87	87	86	88	86	92	89	91	92	91	92	95	96	101	107	104	107	99
315	87	69	87	87	85	87	87	89	88	89	89	89	91	95	95	100	104	104	104	97
400	87	87	87	87	85	85	88	87	88	87	88	87	88	91	95	100	104	103	102	94
500	86	87	87	86	85	86	86	84	86	84	86	86	90	94	95	99	101	101	101	92
630	86	87	87	84	85	85	85	83	85	83	85	83	85	89	95	95	99	100	99	91
800	85	86	86	84	85	86	86	86	83	84	86	83	84	90	95	98	99	98	98	88
1000	85	84	86	84	85	84	85	86	84	85	86	84	83	89	95	94	98	96	94	85
1250	85	84	87	85	85	86	86	87	85	87	85	83	83	89	95	93	95	96	93	91
1600	90	99	89	87	87	87	88	87	85	87	88	87	85	89	96	93	95	96	93	89
2000	99	98	98	96	93	92	92	88	87	91	97	94	95	95	92	88	92	94	92	88
2500	96	96	96	92	92	92	90	87	86	90	95	92	94	94	90	86	90	86	77	
3150	91	92	92	89	89	89	89	87	86	90	96	90	96	91	94	95	91	85	76	
4000	95	94	95	94	90	90	90	88	86	90	95	91	93	94	91	85	76			
5000	92	91	93	92	88	88	88	85	85	86	92	88	88	92	90	86	77			
6300	92	90	92	91	87	86	86	84	84	84	91	87	91	90	88	88	84	75		
8000	89	88	90	89	86	86	84	84	83	82	82	79	77	83	85	81	84	84	79	
10000	86	84	87	85	82	82	82	82	82	82	82	79	77	83	85	81	84	84	79	
OVERALL	104	104	104	104	101	101	102	100	100	103	107	107	110	115	115	115	115	108		

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE I MEASURED SOUND PRESSURE LEVEL (DB)
5 1/3 OCTAVE BAND
DISTANCE = 75 METERS

NOISE SOURCE/SUBJECT:	OPERATION:				METEOROLOGY:				ANGLE (DEGREES)							
	MILITARY POWER	95.5% RPM	SINGLE ENGINE	FREE FLOW	TEMP = 28 C	BAR PRESS = .762 MM HG	REL HUMID = 82 %		0	120	130	140	150	160	170	180
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
25	78	78	79	79	79	80	79	80	80	82	83	88	93	93	92	89
31.5	79	77	78	80	79	82	81	82	83	83	84	88	94	97	98	97
40	81	81	80	82	83	87	85	84	85	85	88	87	93	97	101	99
50	82	83	82	85	85	87	86	87	87	87	88	91	93	101	103	99
63	84	84	85	87	88	87	88	88	90	90	92	93	98	104	106	99
80	87	87	88	88	90	89	90	91	90	92	93	94	101	111	108	101
100	89	88	91	91	91	94	94	92	92	93	95	97	104	111	114	109
125	91	90	92	90	92	92	93	93	92	94	96	98	104	112	115	110
160	95	96	95	93	94	94	94	95	94	95	98	100	107	110	116	99
200	94	95	94	94	94	95	95	97	96	95	96	99	102	109	113	115
250	96	96	95	94	93	95	95	96	96	96	97	100	103	109	115	114
315	93	95	94	95	94	94	94	96	96	96	98	101	103	110	110	95
400	97	94	95	94	92	93	94	94	95	97	101	103	109	112	113	111
500	96	94	95	93	92	92	93	95	96	95	96	100	102	108	111	93
630	93	94	95	93	92	94	91	92	93	95	100	101	106	110	109	81
800	92	94	95	94	95	95	92	94	92	96	100	101	106	111	108	89
1000	92	92	93	93	94	94	93	95	93	94	98	99	103	103	108	87
1250	94	89	91	92	93	94	92	96	94	93	97	98	103	100	107	79
1600	91	89	91	92	94	95	97	95	92	95	96	96	102	99	105	84
2000	90	90	91	93	94	95	96	94	95	96	94	95	101	96	104	76
2500	89	90	92	92	91	93	93	95	94	96	93	94	99	94	103	81
3150	92	89	91	91	91	94	94	95	94	96	97	92	93	97	103	73
4000	87	87	89	89	89	92	92	93	92	96	90	92	96	92	100	71
5000	84	85	87	87	87	89	91	92	92	96	90	91	96	91	100	70
6300	83	83	86	85	86	88	89	91	90	85	89	90	95	90	98	69
8000	81	81	83	83	84	86	87	90	90	84	89	90	94	90	97	69
10000	77	77	79	78	81	82	84	87	87	81	86	87	92	88	94	67
OVERALL	105	105	106	105	105	106	106	107	107	107	111	112	118	122	125	98

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE I MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:									
5 1/3 OCTAVE BAND DISTANCE = 75 METERS										OMEGA 1.4 TEST 78-011-001									
NOISE SOURCE/SUBJECT:		OPERATION:		METEOROLOGY:		TEST 78-011-001		TEST 78-011-001		TEST 78-011-001		TEST 78-011-001		TEST 78-011-001		TEST 78-011-001		TEST 78-011-001	
F-101B AIRCRAFT		AFTERSURNER POWER		TEMP = 28 C		RUN 05		BAR PRESS = .762 HG		18 SEP 78		REL HUMID = 82 %		PAGE 2		PAGE 2		PAGE 2	
J57-P-55 ENGINE		SINGLE ENGINE		ANGLE (DEGREES)		ANGLE (DEGREES)		ANGLE (DEGREES)		ANGLE (DEGREES)		ANGLE (DEGREES)		ANGLE (DEGREES)		ANGLE (DEGREES)		ANGLE (DEGREES)	
FAR FIELD NOISE		FREE FLOW		90		90		90		90		90		90		90		90	
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	90	89	89	90	90	92	90	93	92	89	91	93	96	102	104	106	103		
31.5	90	91	91	92	91	94	95	93	93	93	93	94	102	106	107	109	106		
40	91	92	90	93	94	96	96	95	95	96	96	98	105	111	112	111	105		
50	93	93	94	95	96	97	97	96	98	98	98	100	109	114	116	113	102		
63	96	93	95	96	95	96	98	98	99	100	101	101	104	111	117	117	113	104	
80	96	97	97	98	99	98	99	100	100	101	102	102	106	115	120	119	114	104	
100	97	96	99	100	101	101	101	102	101	102	102	103	109	117	122	120	115	104	
125	99	98	100	100	100	101	100	102	102	103	103	106	111	118	123	120	114	103	
160	102	101	101	100	100	101	102	104	103	104	104	107	112	118	122	120	116	104	
200	101	102	101	100	101	101	102	103	105	104	105	108	114	119	119	119	115	101	
250	103	103	102	101	101	103	105	105	104	106	109	115	121	120	119	115	100		
315	98	100	99	100	99	100	102	104	105	107	110	114	119	120	116	113	98		
400	99	100	100	100	98	99	100	102	104	107	110	115	118	117	110	99			
500	98	99	100	98	98	99	99	99	103	107	111	114	116	115	108	99			
630	95	96	100	96	101	101	99	102	104	106	111	113	114	113	104	96			
800	94	97	98	98	100	101	102	101	102	106	111	112	112	112	101	95			
1000	92	95	97	96	99	100	102	102	102	105	109	111	110	110	109	97	92		
1250	90	93	96	94	97	99	101	103	104	104	109	110	107	108	106	95	91		
1600	91	92	95	94	97	99	101	103	105	105	108	108	105	105	107	95	99		
2000	90	92	95	94	98	99	102	104	104	107	107	107	104	105	105	93	86		
2500	89	91	93	97	98	100	101	103	104	105	106	101	101	104	104	89	84		
3150	89	91	93	94	97	98	101	103	102	104	104	101	101	102	102	87	82		
4000	88	93	92	93	96	96	99	101	100	101	101	102	98	97	99	79	79		
5000	87	89	91	93	94	97	99	101	101	101	101	102	97	97	99	83	78		
6300	85	86	88	89	92	95	97	98	99	100	100	96	95	98	98	81	76		
8000	83	85	86	87	89	91	93	96	98	99	100	100	94	94	98	80	76		
10000	79	80	82	83	85	86	89	92	94	96	97	97	92	92	94	76	73		
OVERALL	110	111	111	111	112	113	114	116	116	118	121	124	126	130	129	124	114		

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

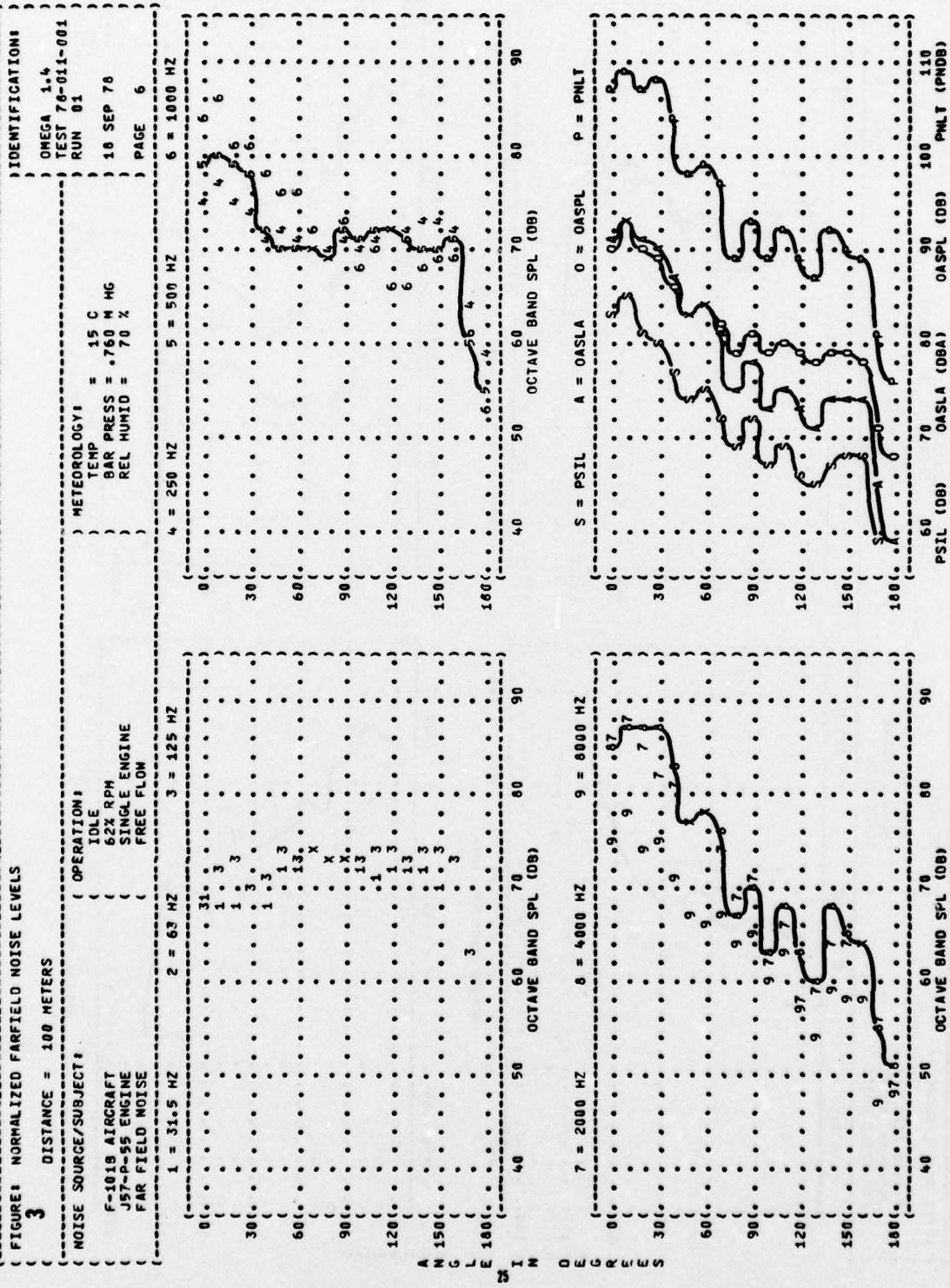


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:
F-101B AIRCRAFT
JS7-P55 ENGINE
FAR FIELD NOISE

OPERATION:
80% RPM
SINGLE ENGINE
FREE FLOW

1 = 31.5 Hz

2 = 63 Hz

3 = 125 Hz

4 = 250 Hz

5 = 500 Hz

6 = 1000 Hz

7 = 2000 Hz

8 = 4000 Hz

9 = 8000 Hz

10 = 16000 Hz

11 = 32000 Hz

12 = 64000 Hz

13 = 128000 Hz

14 = 256000 Hz

15 = 512000 Hz

16 = 1024000 Hz

17 = 2048000 Hz

18 = 4096000 Hz

19 = 8192000 Hz

20 = 16384000 Hz

21 = 32768000 Hz

22 = 65536000 Hz

23 = 131072000 Hz

24 = 262144000 Hz

25 = 524288000 Hz

26 = 1048576000 Hz

27 = 2097152000 Hz

28 = 4194304000 Hz

29 = 8388608000 Hz

30 = 16777216000 Hz

31 = 33554432000 Hz

32 = 67108864000 Hz

33 = 134217728000 Hz

34 = 268435456000 Hz

35 = 536870912000 Hz

36 = 1073741824000 Hz

37 = 2147483648000 Hz

38 = 4294967296000 Hz

39 = 8589934592000 Hz

40 = 17179869184000 Hz

IDENTIFICATIONS:

OMEGA 1.4

TEST 76-011-001

RUN 02

24 JAN 79

PAGE 6

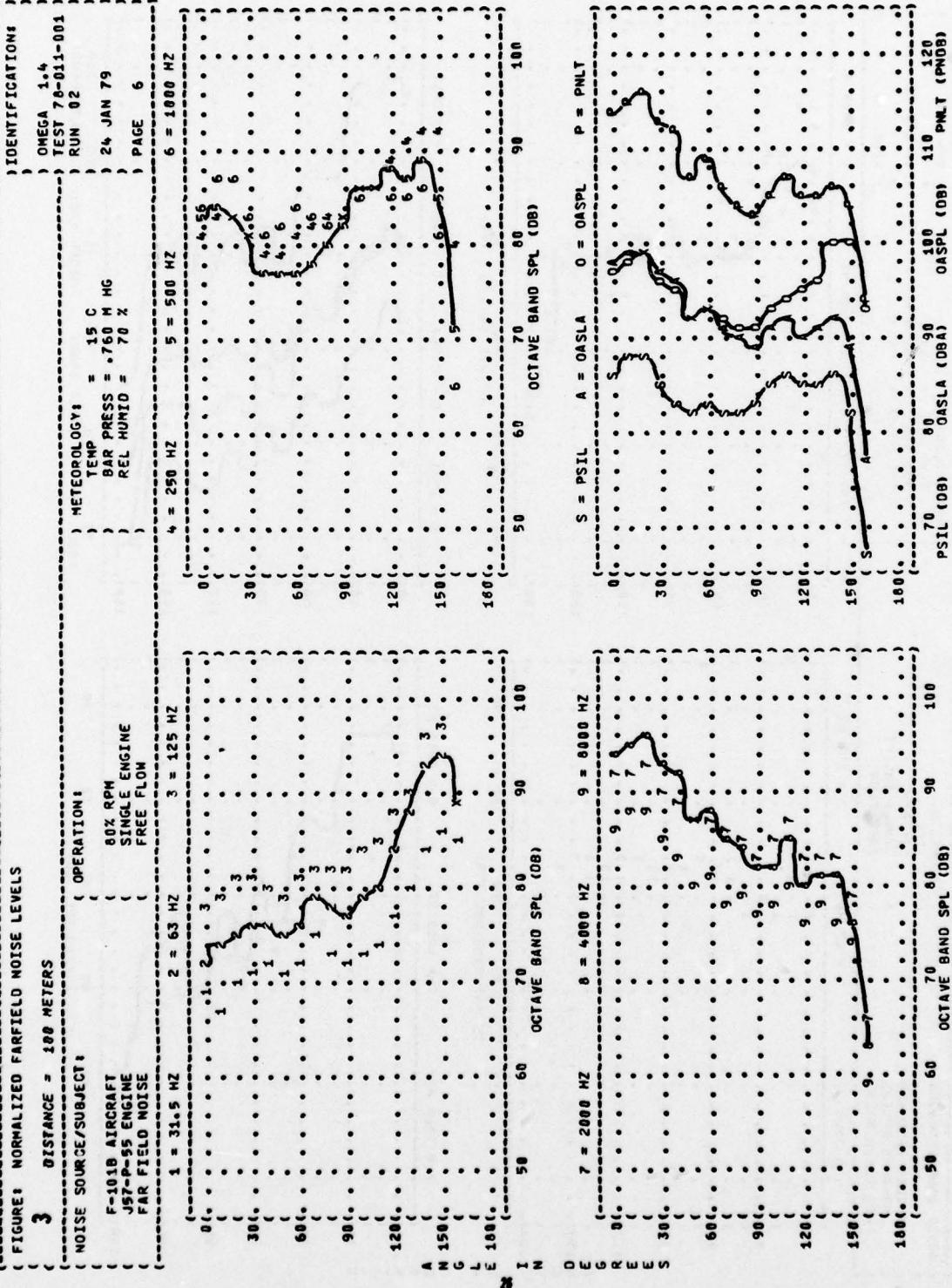


FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

90X RPM
SINGLE ENGINE
FREE FLOW

OPERATION 1

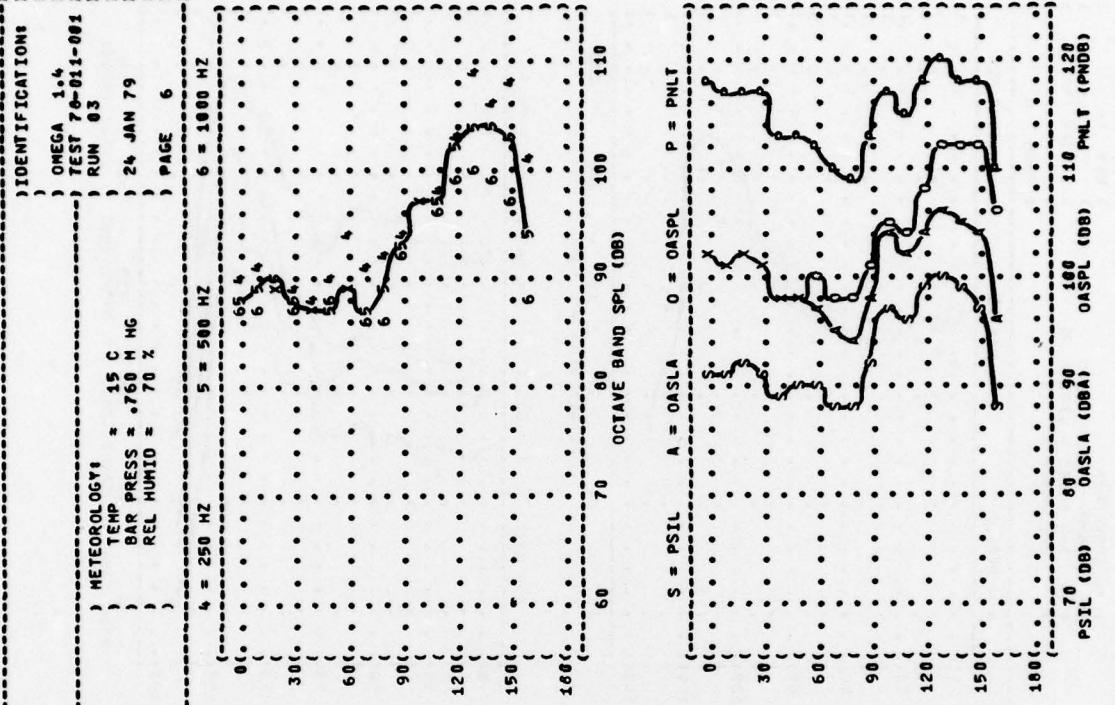
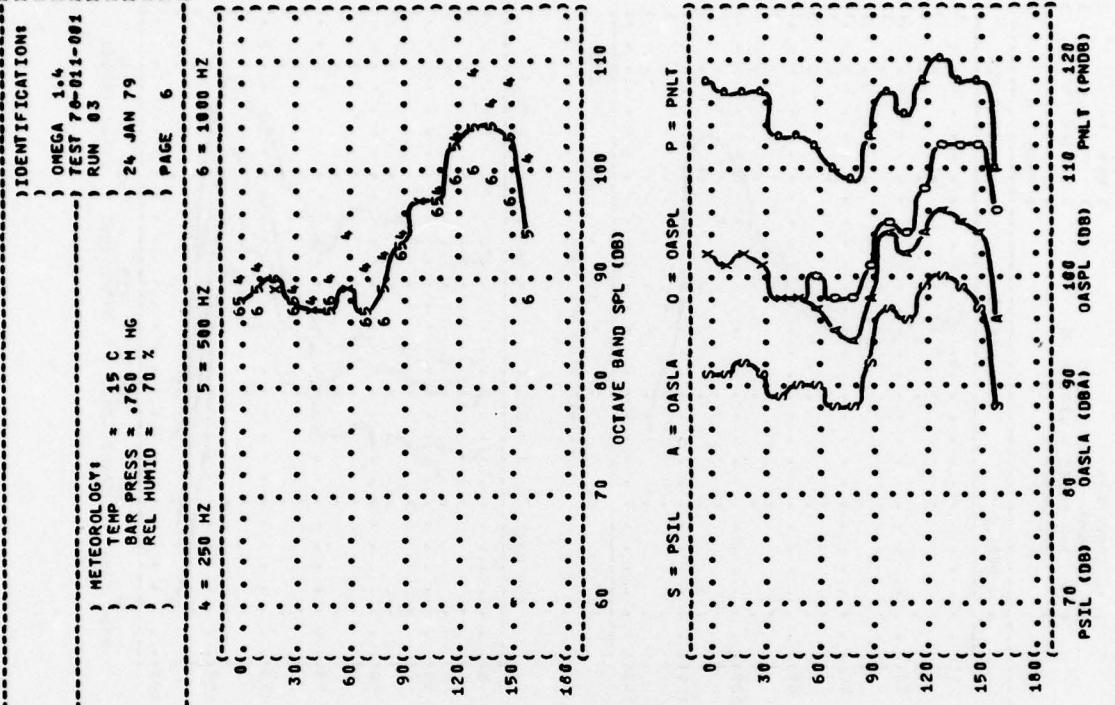
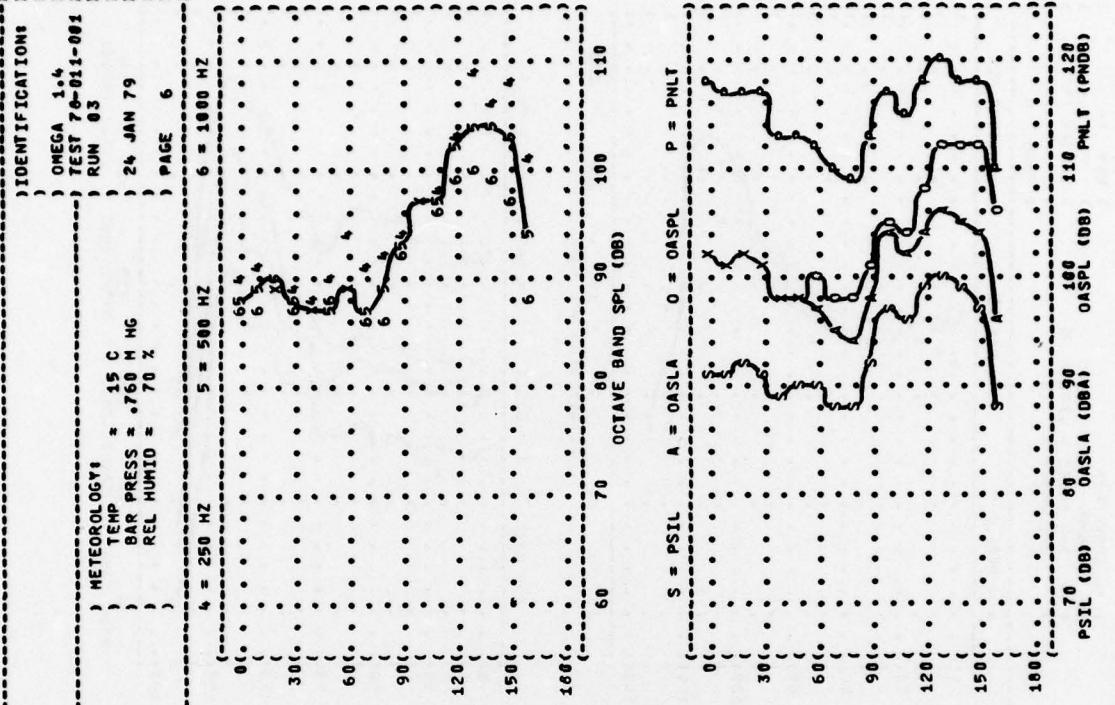
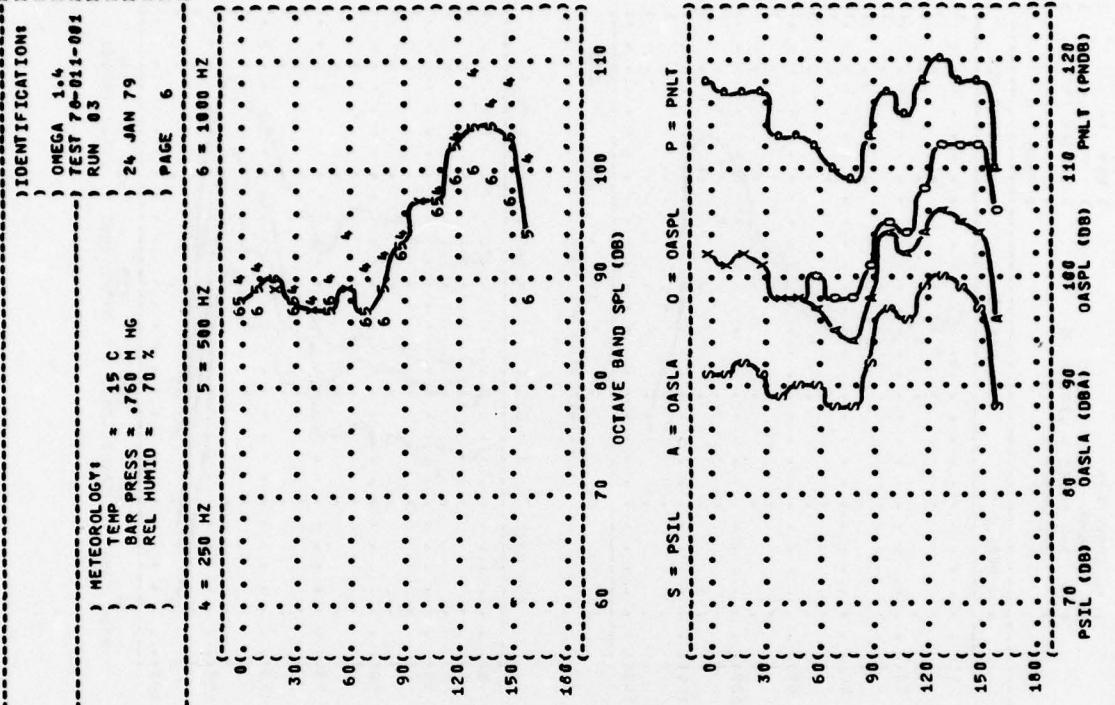
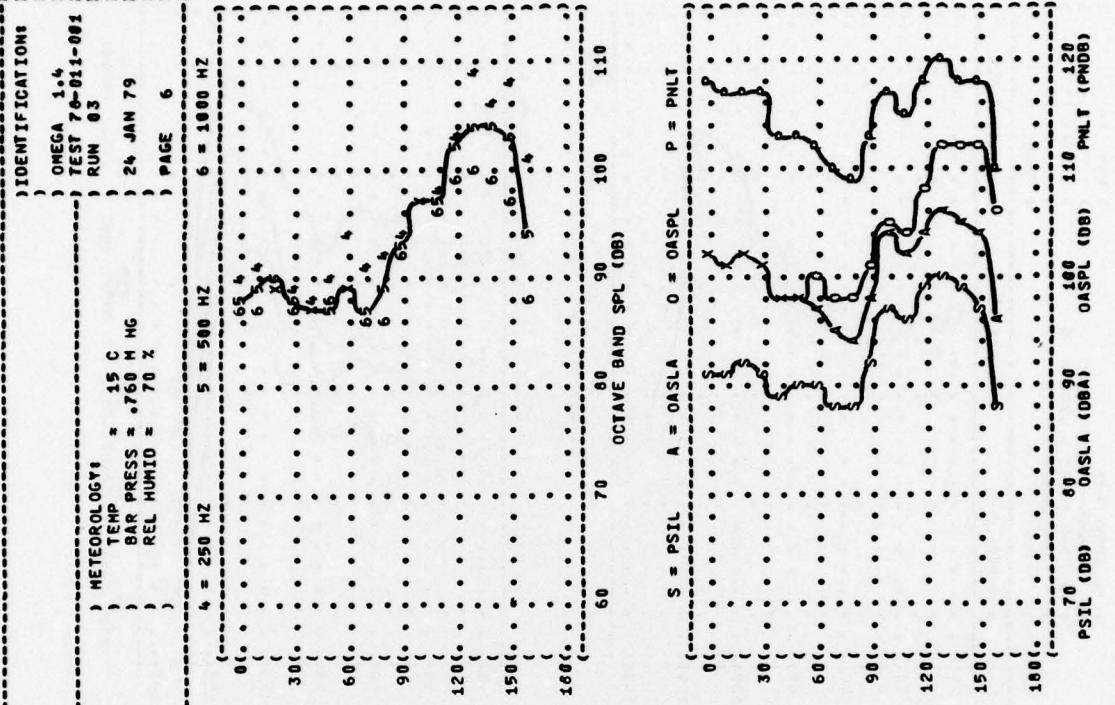
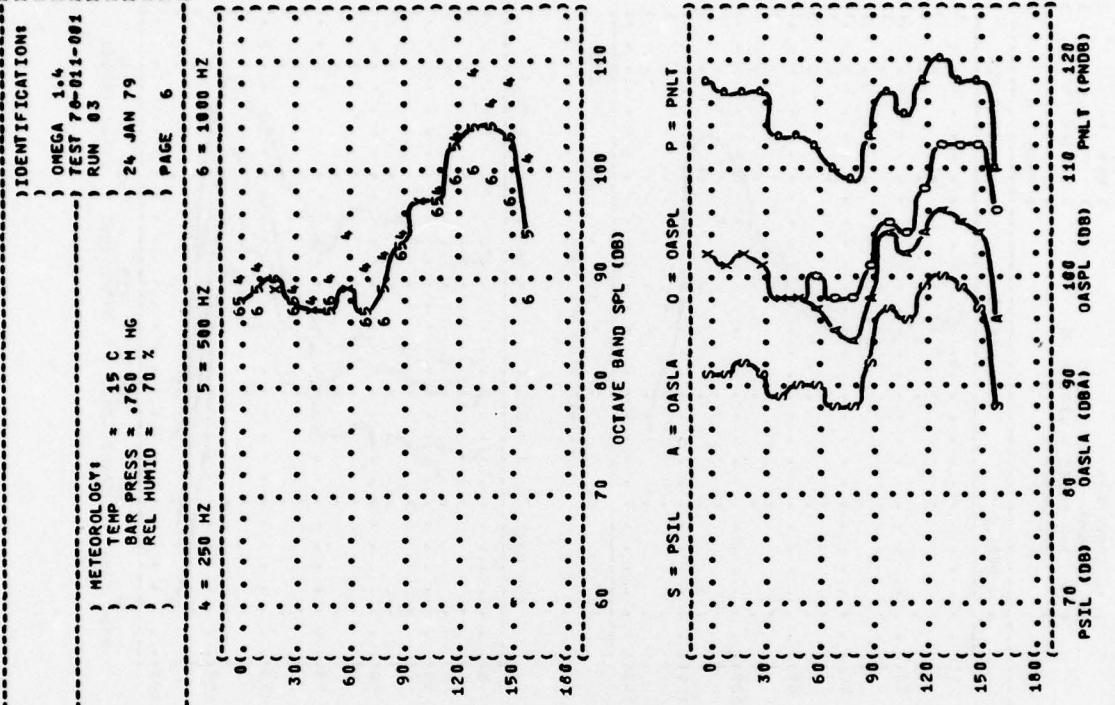
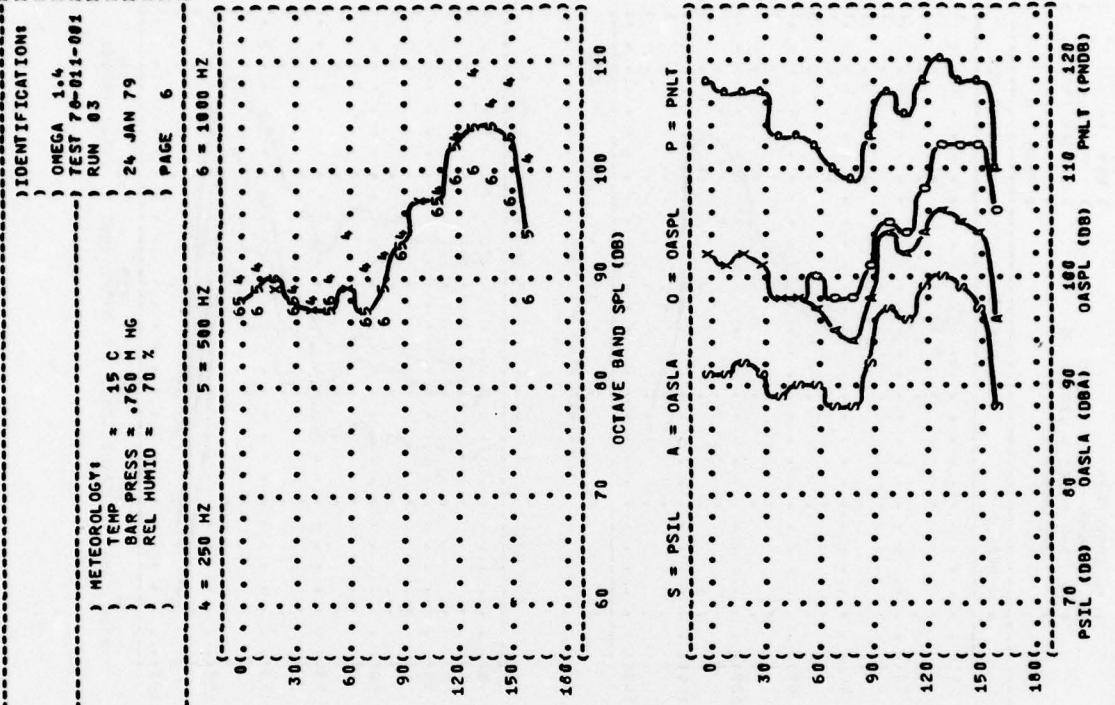
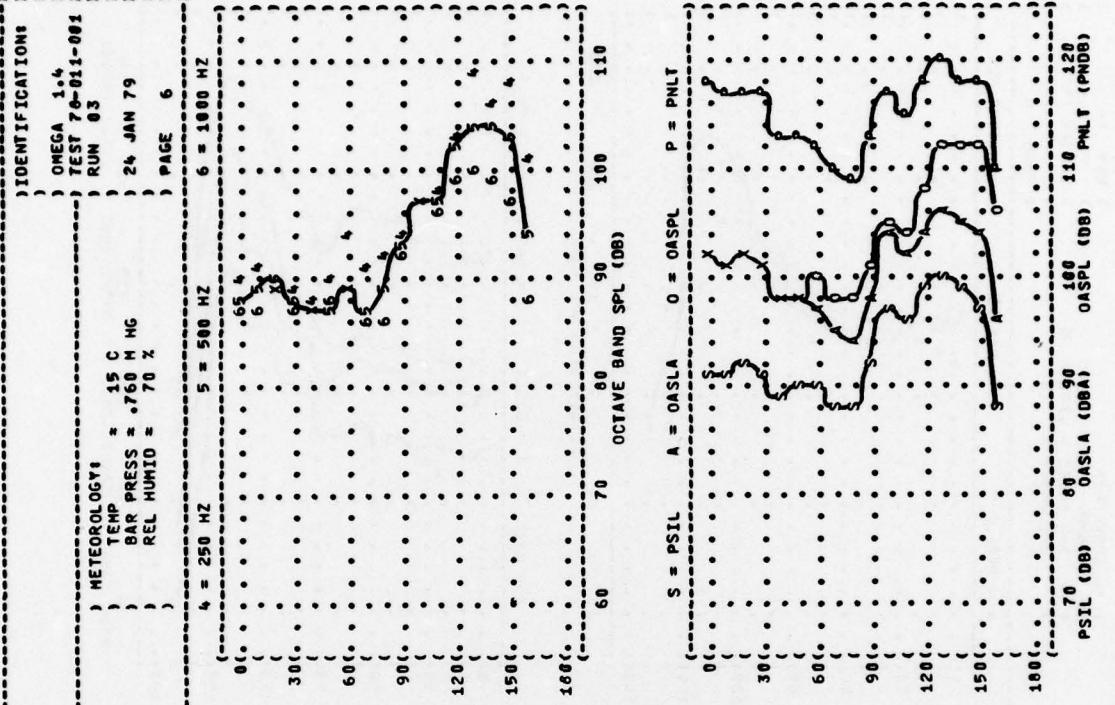
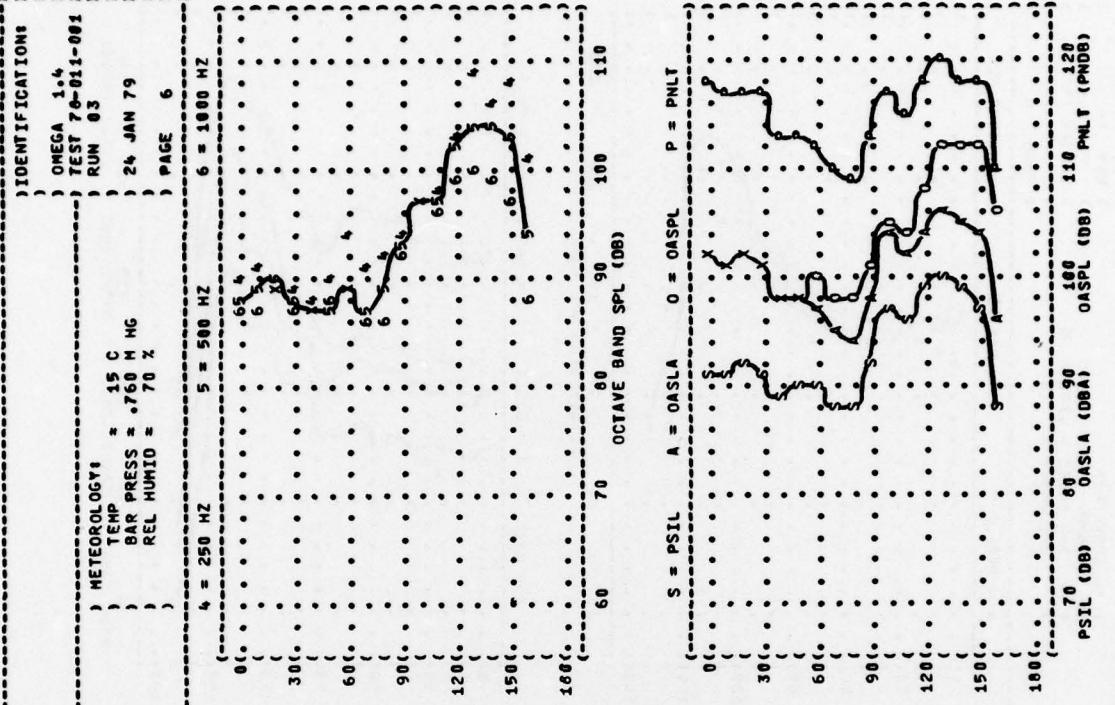
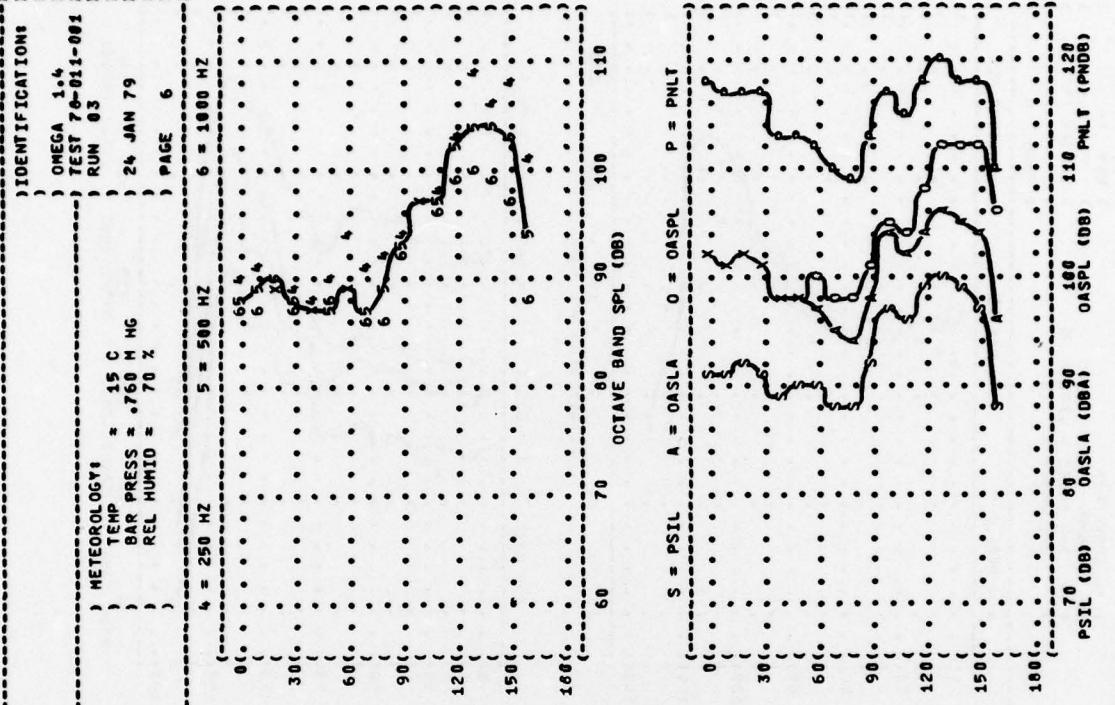
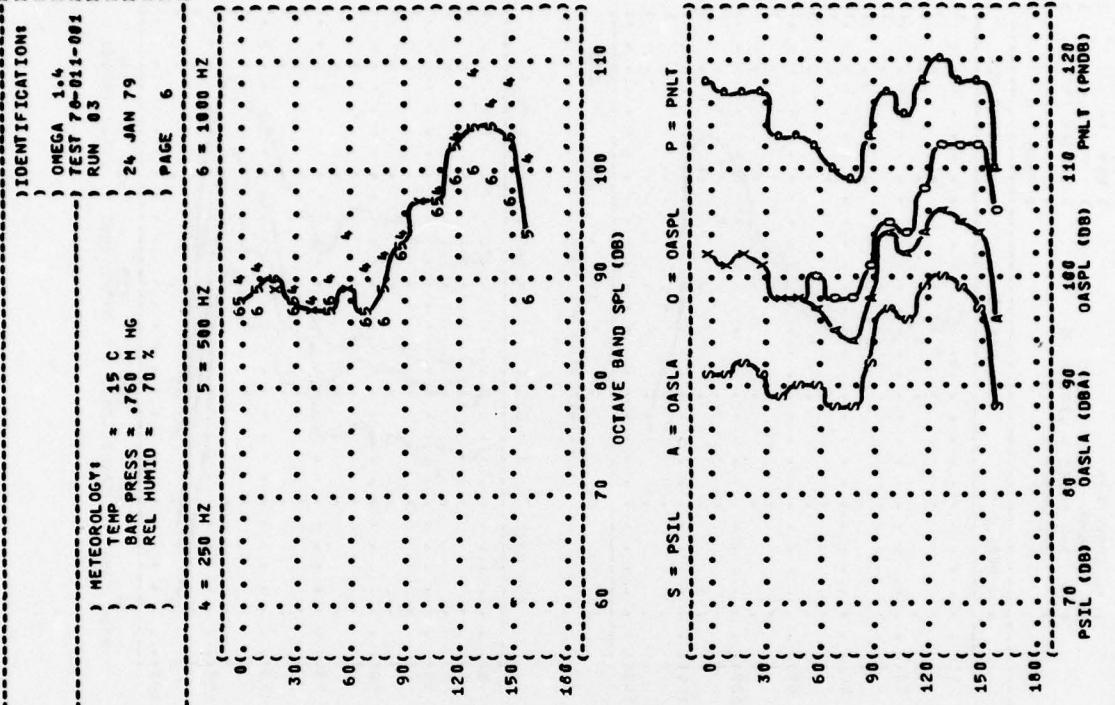
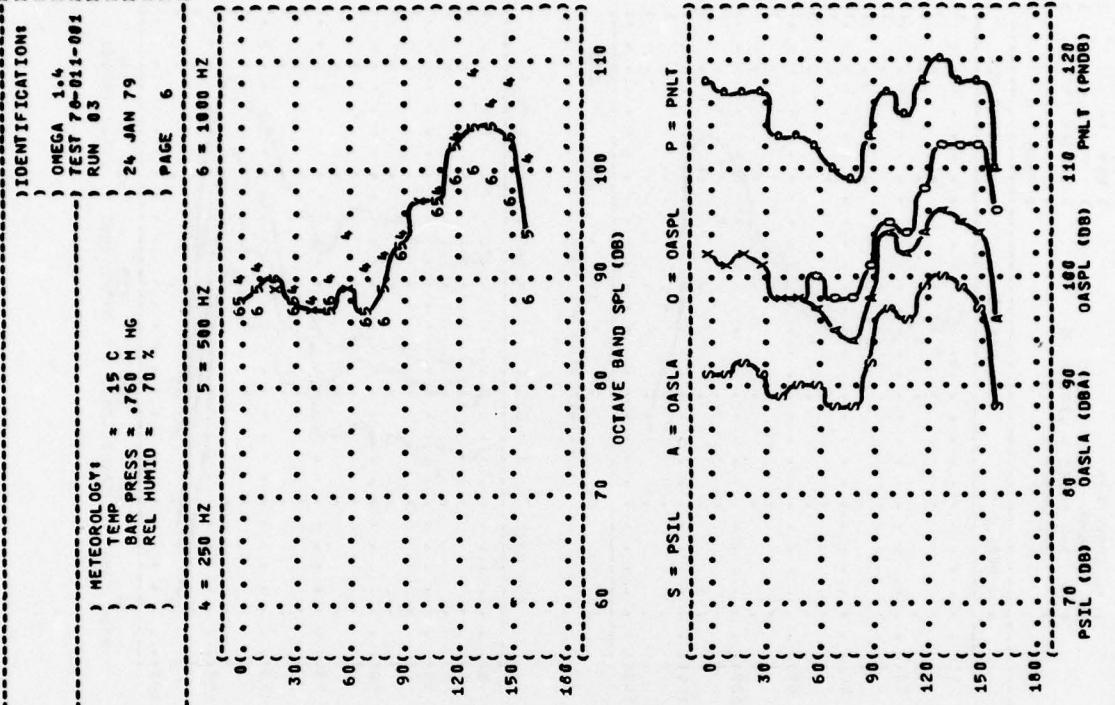
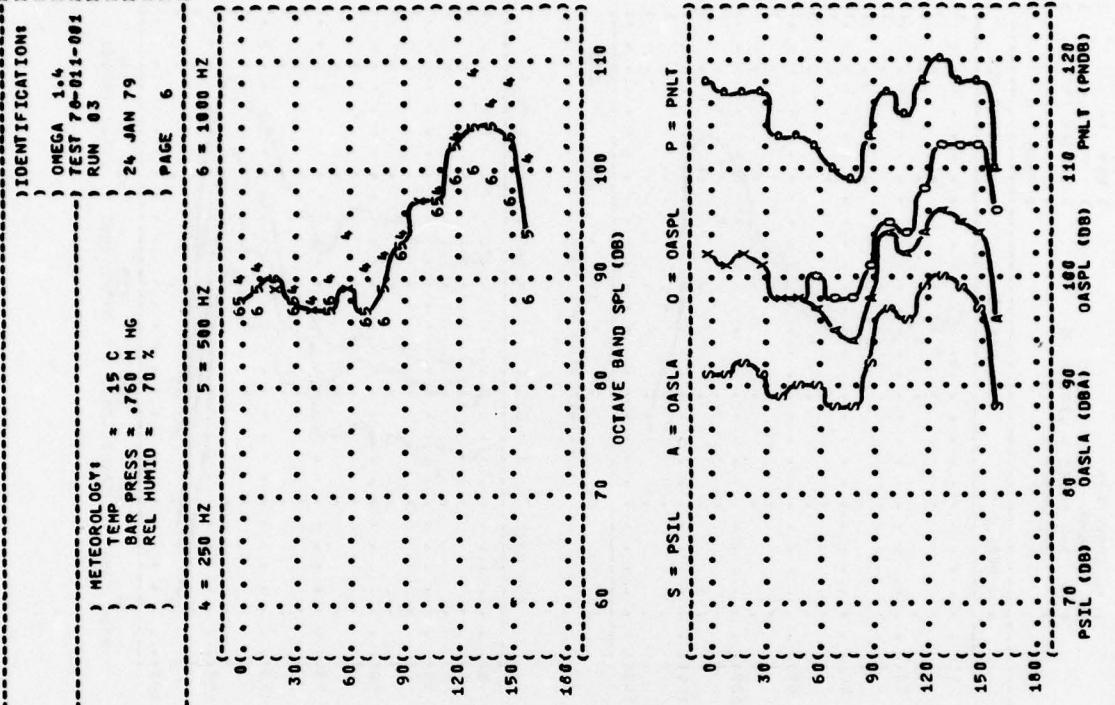
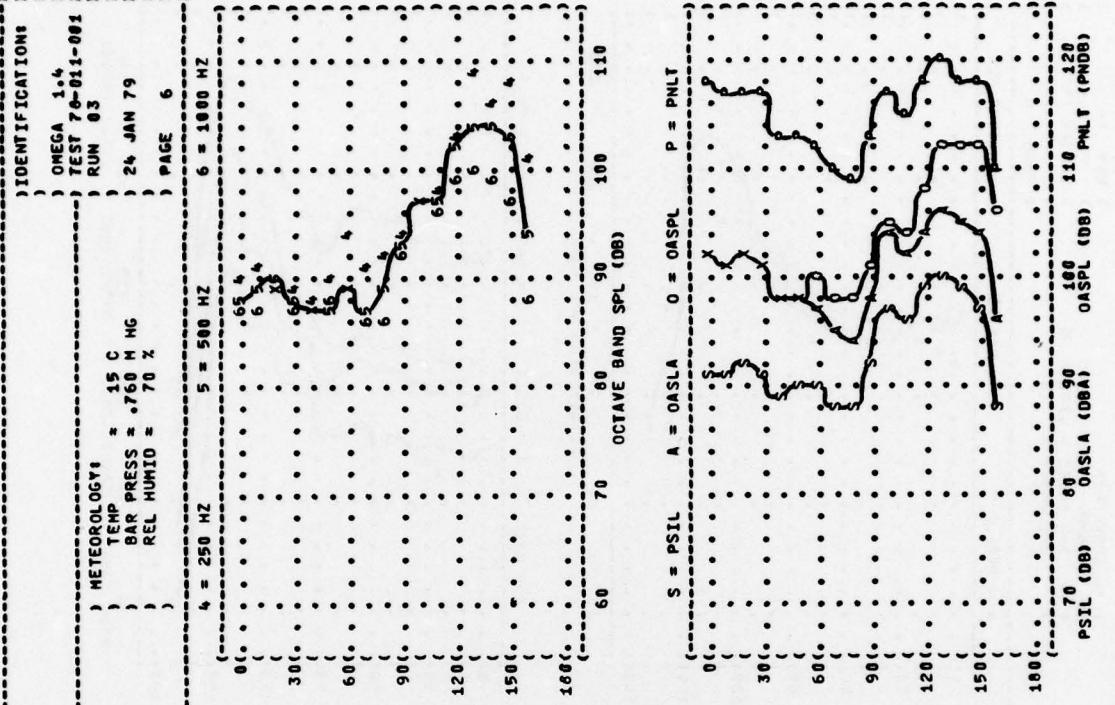
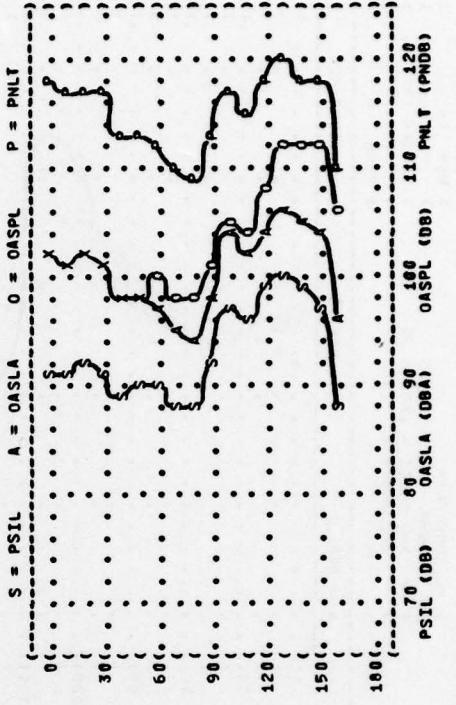
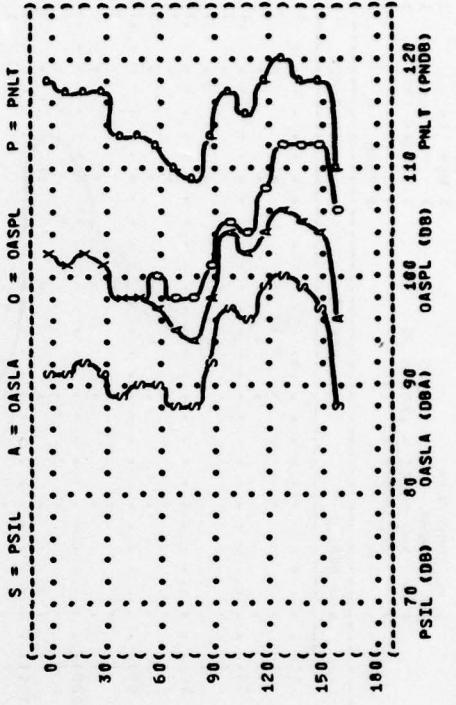
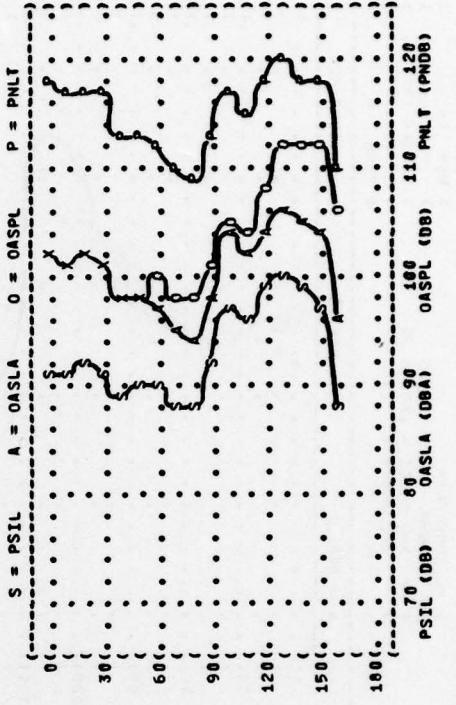
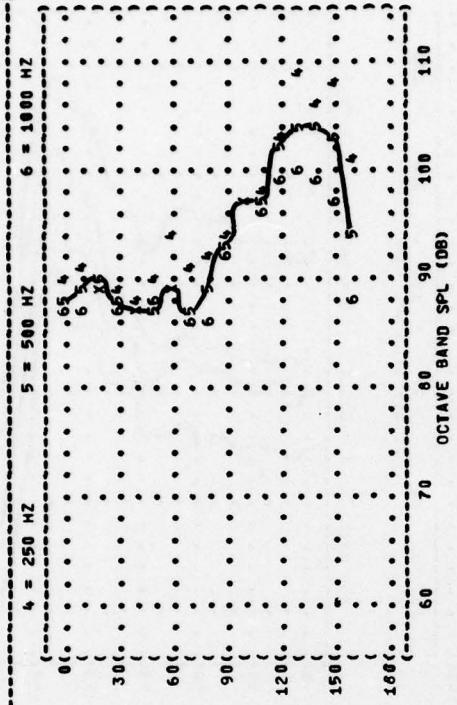
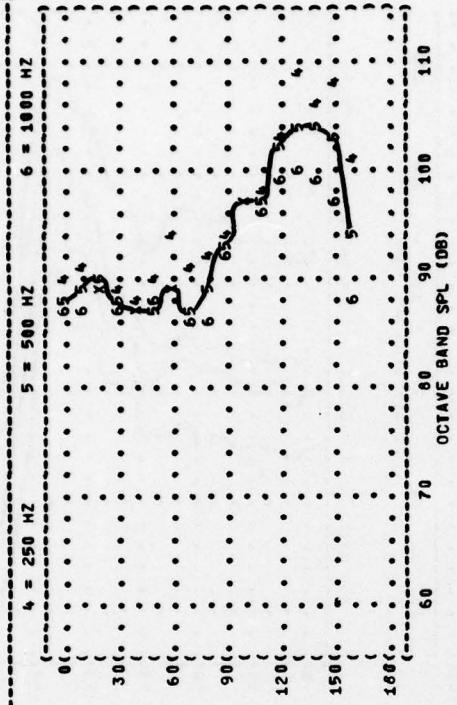
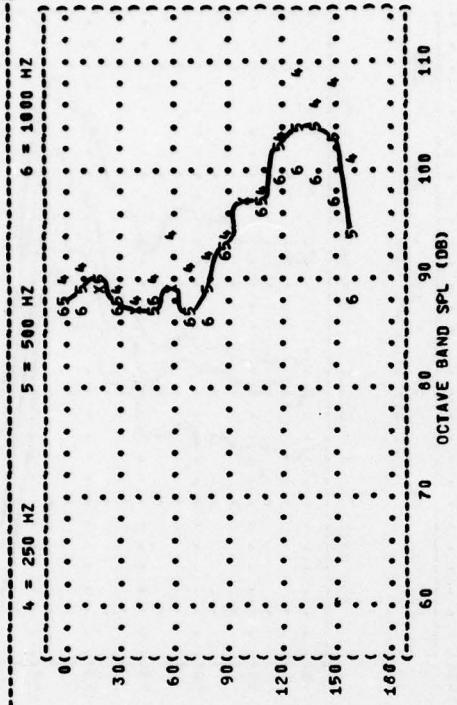
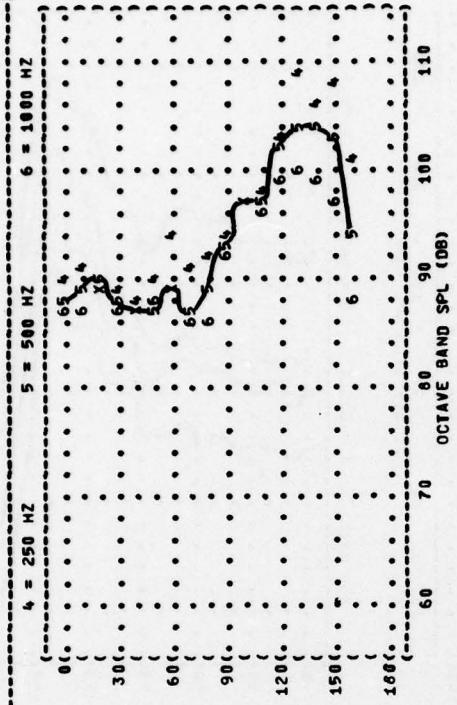
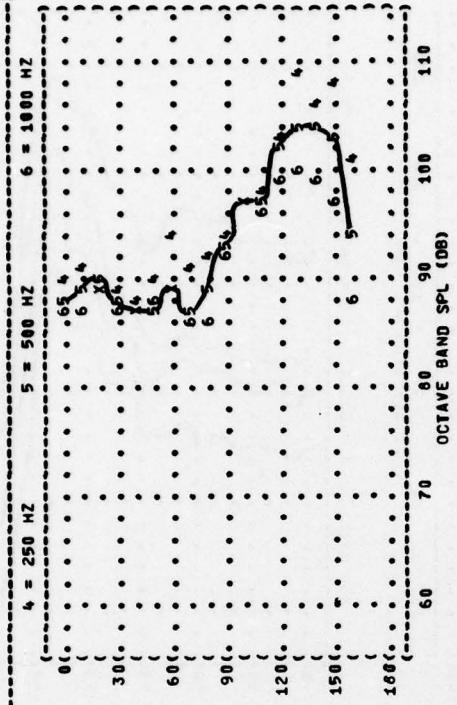
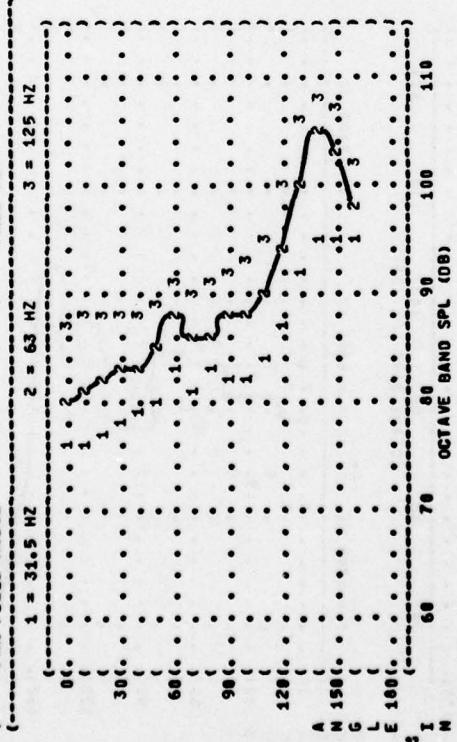


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

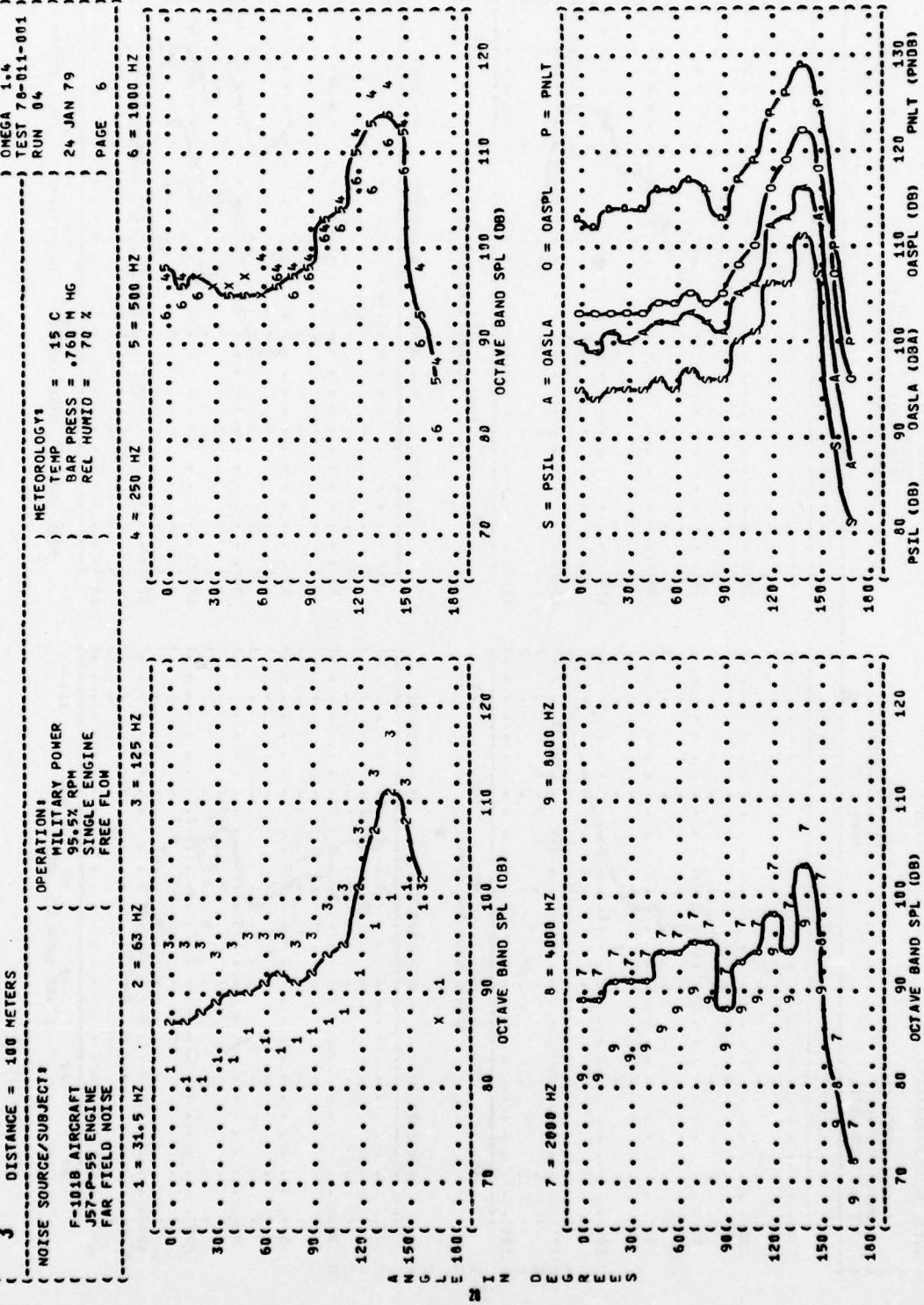


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

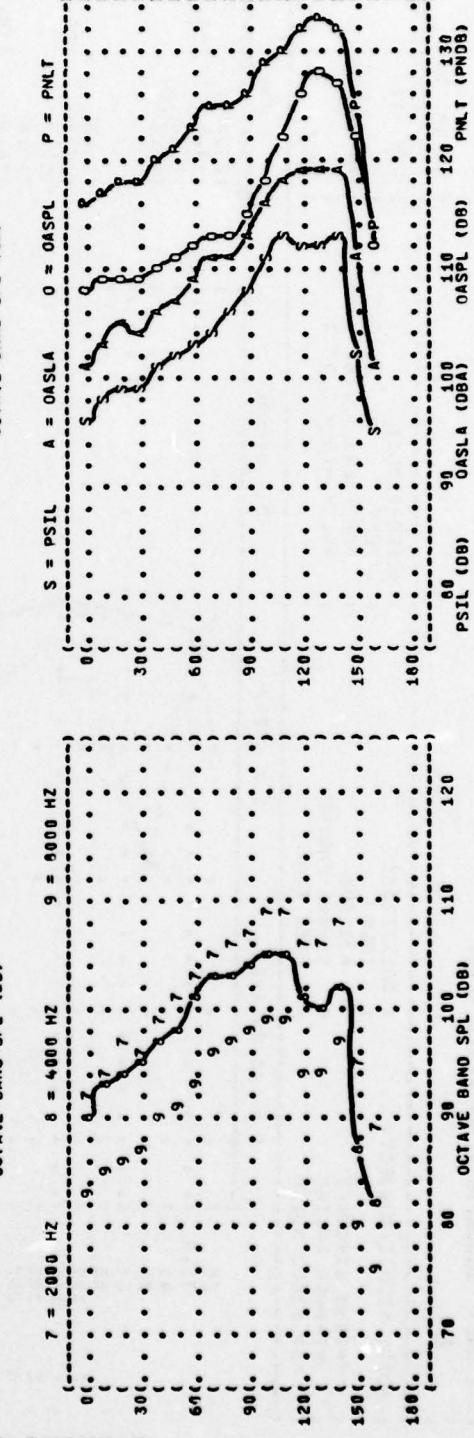
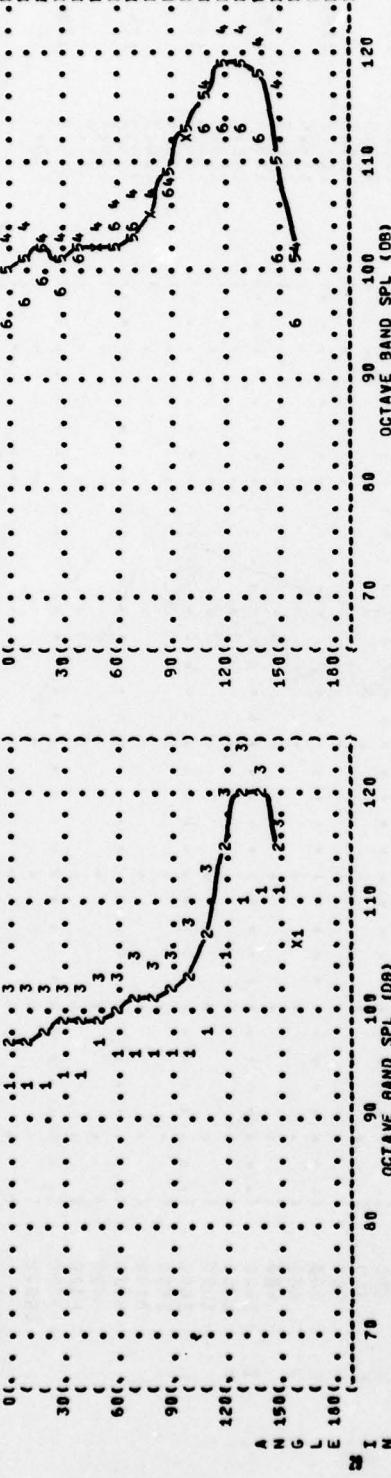
OPERATION:

AFTERBURNER POWER
93% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

TEST: TEST 78-011-001
RUN 05
24 JAN 79
PAGE 6



{ FIGURE: ACOUSTIC POWER LEVEL (PWL)
4

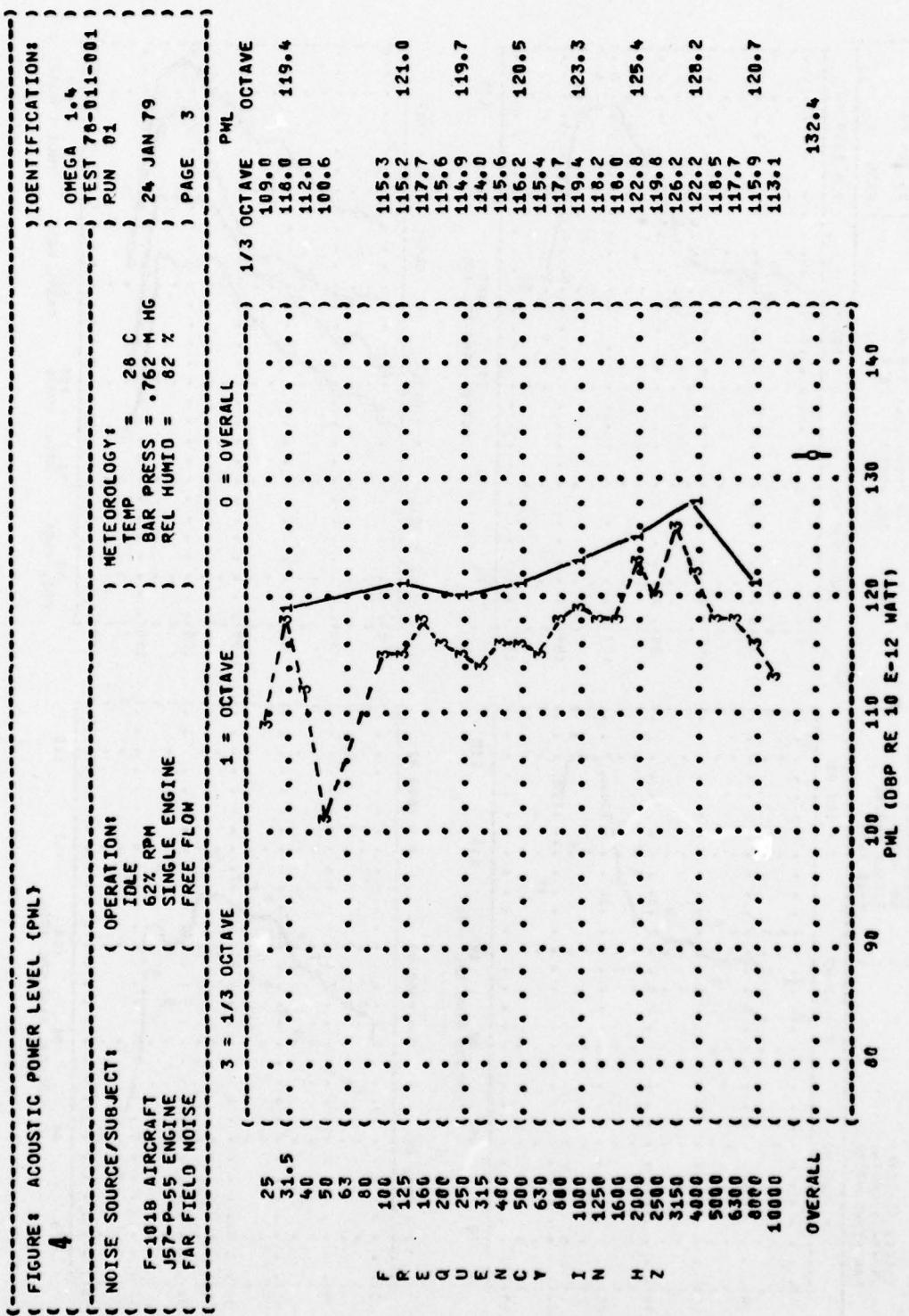


FIGURE 3 ACOUSTIC POWER LEVEL (PWL)

4

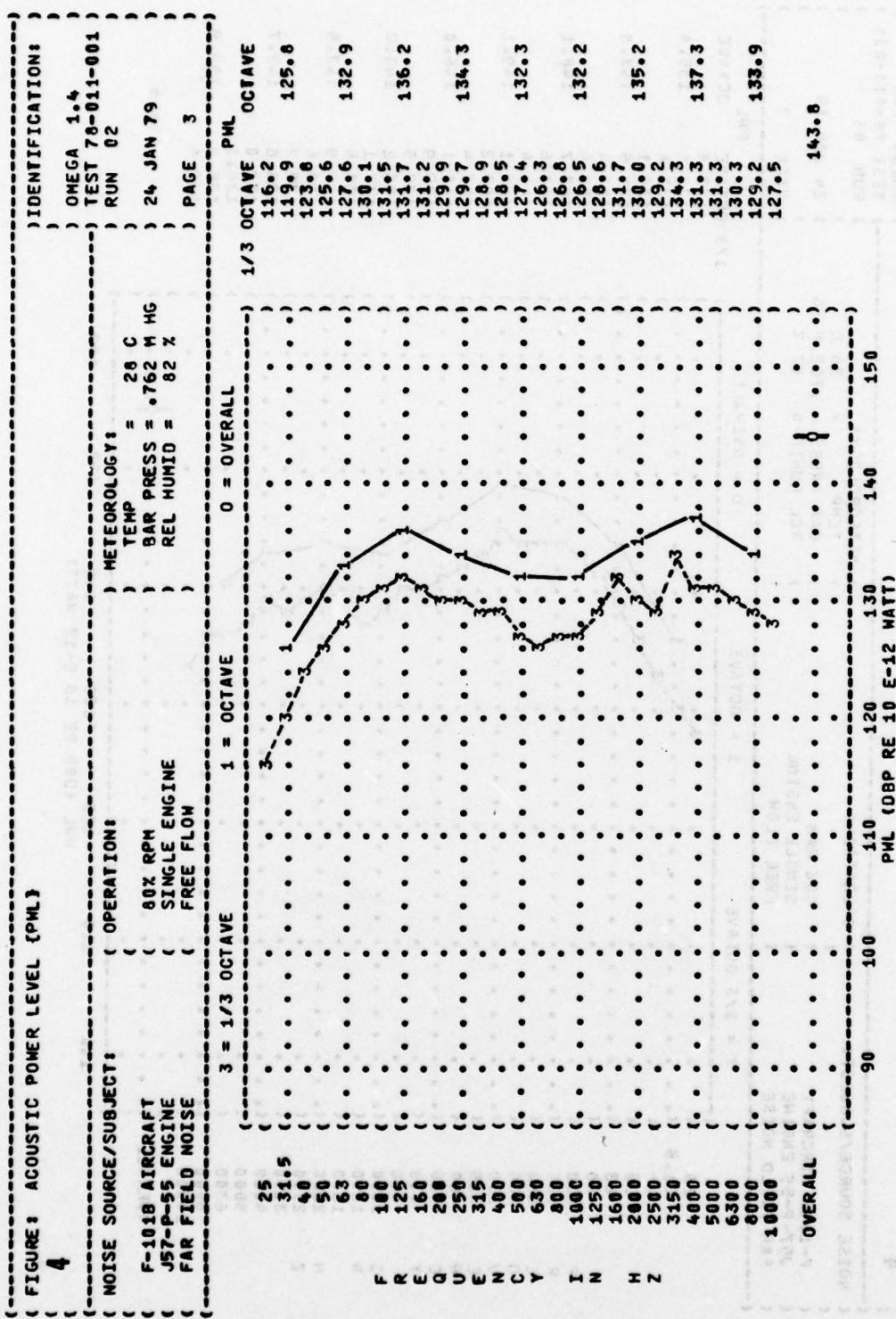


FIGURE 4: ACOUSTIC POWER LEVEL (PNL)

4

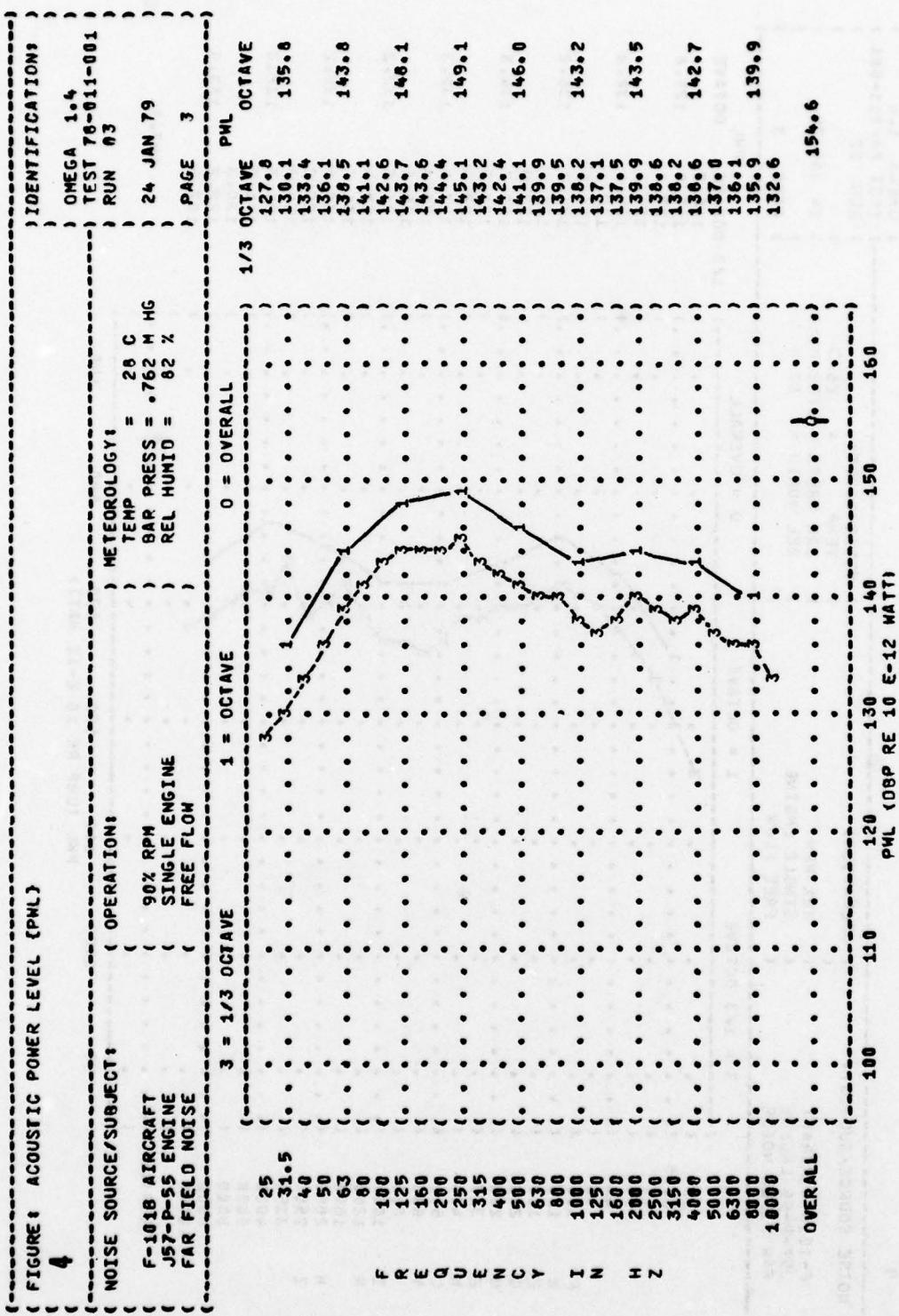


FIGURE 4 ACOUSTIC POWER LEVEL (PWL)

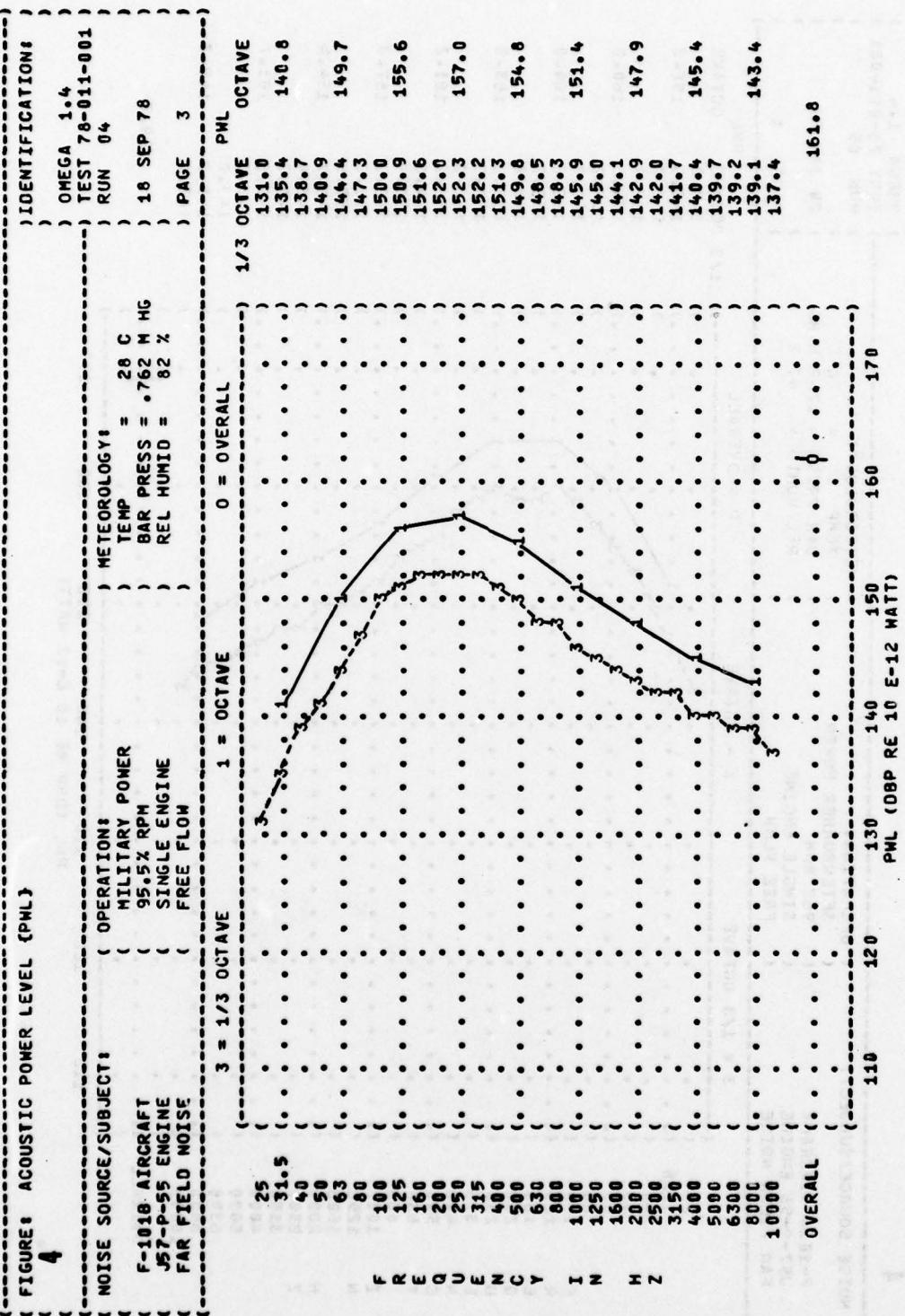


FIGURE 4 ACOUSTIC POWER LEVEL (PWL)

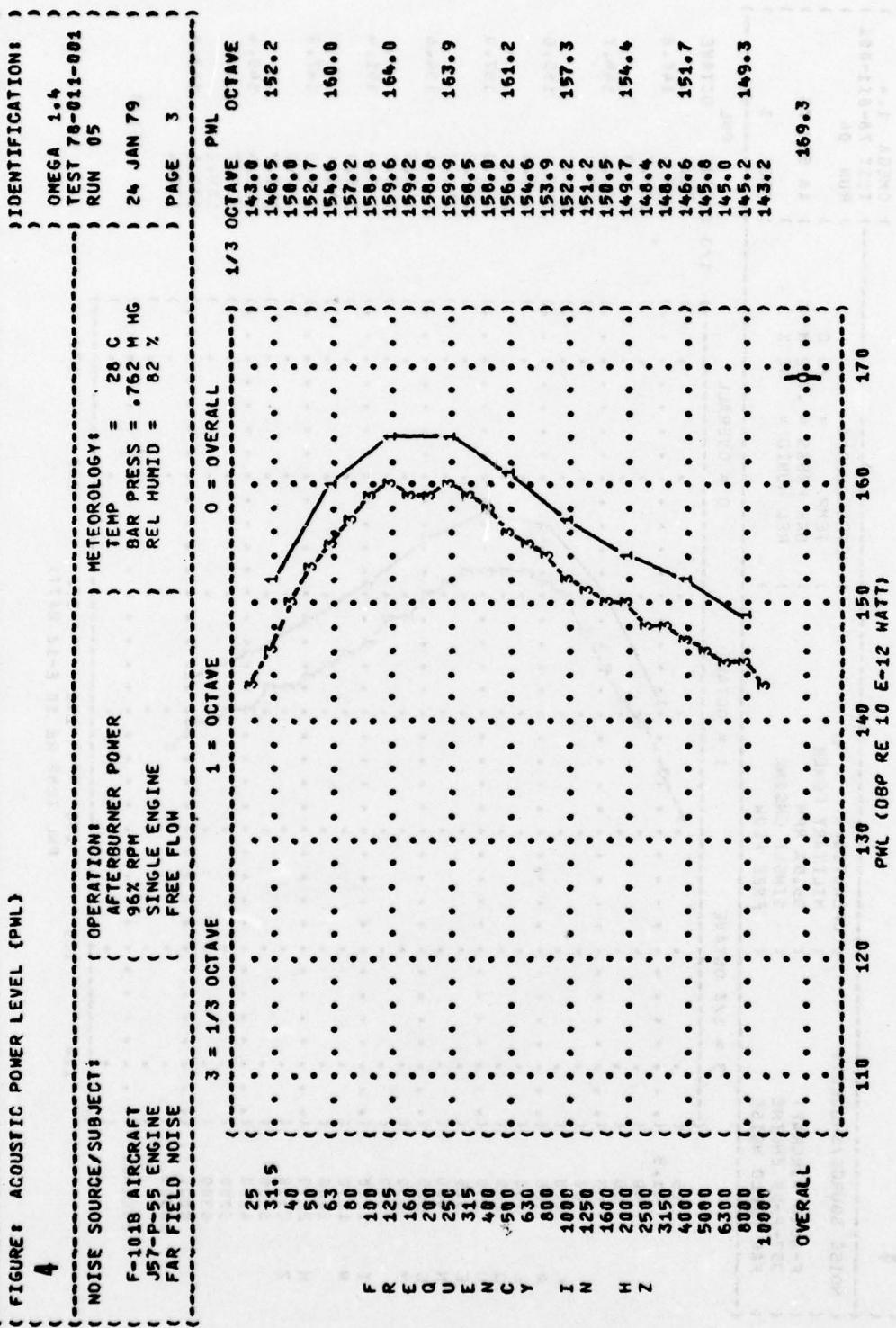


TABLE 6 DIRECTIVITY INDEX (DB)

NOISE SOURCE/SUBJECT:		OPERATION:						METEOROLOGY:											
		IDLE			62% RPM			SINGLE ENGINE			FREE FLOW			TEMP = 28 C			BAR PRESS = .762 M HG		
FREQ (HZ)	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
1/3 OCTAVE																			
F-101B AIRCRAFT	1	2	-1	-3	-4	0	0	1	2	4	0	-1	1	-1	-1	-2	-3	-4	
J57-P-55 ENGINE	-2	-5	-3	-4	-3	0	0	2	1	2	1	1	0	0	1	1			
FAR FIELD NOISE	40	50	63	60	100	125	140	160	180	200	250	315	400	500	630	600	1000	1250	1600
OCTAVE	31.5	63	125	250	500	1000	2000	3150	4000	5000	6300	8000	10000	12500	16000	20000	31500	40000	50000
OVERALL	7	9	7	6	3	0	0	-2	-4	-3	-2	-1	-1	-1	-1	-1	-1	-1	-1

TABLE 6 DIRECTIVITY INDEX (DB)

NOISE SOURCE/SUBJECT:		OPERATIONS:										ANGLE (DEGREES):									
		80% RPM SINGLE ENGINE FREE FLOW										TEMP = 28 C BAR PRESS = 762 H HG REL HUMID = 82 %									
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180		
1/3 OCTAVE																					
25.0	-5	-5	-3	-2	-6	-2	-5	-6	-5	-5	-5	-3	-2	-4	-5	-3	-2	-4	-6	7	7
31.5	-8	-6	-6	-5	-7	-7	-2	-4	-5	-5	-5	-3	-2	-2	-2	-2	-2	-5	7	8	
40.0	-12	-10	-8	-6	-8	-6	-4	-5	-6	-5	-5	-4	-1	-2	-2	-2	-2	6	7	7	
50.0	-12	-11	-11	-8	-8	-9	-8	-5	-7	-5	-7	-4	-2	-2	-2	-2	-2	7	8	6	
63.0	-12	-11	-10	-9	-8	-9	-6	-6	-7	-5	-6	-6	-1	-1	-3	-3	-3	8	8	4	
80.0	-14	-12	-10	-9	-10	-10	-10	-7	-7	-9	-7	-7	-5	-2	-2	-2	-2	7	9	3	
100.0	-13	-11	-8	-9	-9	-9	-9	-8	-8	-7	-7	-7	-3	-1	-1	-1	-1	2	8	2	
125.0	-10	-10	-7	-7	-8	-8	-8	-7	-7	-8	-7	-7	-3	-1	-1	-1	-1	7	9	0	
160.0	-9	-8	-7	-6	-6	-8	-6	-5	-6	-5	-5	-3	-2	-1	-1	-1	-1	7	8	-2	
200.0	-7	-5	-5	-7	-7	-5	-5	-3	-4	-2	-4	-2	-1	-1	-2	-4	-6	7	8	-4	
250.0	-5	-5	-5	-6	-7	-5	-5	-4	-3	-3	-3	-3	-2	-2	-4	-4	-5	5	5	-6	
315.0	-4	-3	-3	-5	-7	-8	-5	-5	-4	-4	-4	-4	-2	-1	-1	-1	-1	4	6	2	
400.0	-3	-2	-3	-3	-3	-9	-9	-8	-7	-7	-7	-7	-2	-1	-1	-1	-1	5	1	-13	
500.0	-1	0	-1	-3	-9	-7	-8	-7	-6	-7	-6	-5	-2	-2	-2	-2	-2	5	1	-13	
63.0	0	2	0	-2	-5	-5	-5	-5	-5	-5	-5	-5	-2	-2	-3	-3	-3	4	-1	-16	
80.0	1	2	-2	-3	-3	-3	-3	-3	-3	-3	-3	-3	-2	-2	-3	-3	-3	2	4	-17	
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800.0	6	8	8	4	3	-1	1	-2	-1	-3	-2	-1	-3	-2	-2	-2	-2	-6	-9	-22	
1000.0	5	8	7	4	3	0	1	-2	-1	-3	-2	0	-6	-5	-4	-4	-4	-8	-8	-22	
OCTAVE																					
31.5	-9	-11	-8	-7	-6	-7	-6	-6	-5	-5	-6	-5	-4	-1	2	2	6	8	7	4	
63.0	-13	-11	-10	-9	-9	-9	-6	-6	-7	-6	-6	-5	-2	-2	3	7	9	0	0	0	
125.0	-11	-10	-7	-7	-8	-9	-7	-7	-5	-5	-4	-3	-1	-2	2	8	9	0	0	0	
250.0	-5	-4	-4	-5	-7	-7	-7	-7	-5	-5	-4	-3	0	3	4	6	5	1	-7	-14	
500.0	-2	0	-1	-3	-3	-3	-2	-2	-1	-2	-2	-1	1	3	4	3	5	1	-14	-18	
1000.0	1	3	3	-1	-2	-2	0	-1	-2	-1	-2	1	3	1	2	3	4	3	5	1	
2000.0	5	6	7	4	3	0	1	-2	-1	-3	-2	0	-4	-4	-4	-4	-4	-3	-6	-21	
4000.0	7	7	8	6	5	3	0	-1	-2	-3	-4	-2	-3	-2	-2	-2	-2	-7	-11	-24	
8000.0	5	8	8	4	3	0	1	-2	-1	-3	-2	-1	-2	-1	-2	-1	-2	-4	-7	-22	
OVERALL	2	3	4	1	0	-3	-2	-3	-4	-4	-4	-2	-1	0	1	4	5	-2			

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT		OPERATIONS										METEOROLOGY									
		90% RPM SINGLE ENGINE FREE FLOW										TEMP = 28 C BAR PRESS = .762 HG REL HUMID = 82 %									
FREQ (HZ)		0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
1/3 OCTAVE																					
25		-11	-12	-10	-10	-6	-6	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	0
31.5		-10	-10	-11	-9	-6	-7	-5	-6	-5	-6	-4	-6	-3	-3	-3	-3	-3	-3	-3	7
40		-13	-13	-12	-12	-9	-8	-5	-7	-6	-7	-7	-7	-2	-4	-2	-4	-2	-4	-2	7
50		-15	-15	-12	-13	-11	-10	-7	-9	-7	-6	-6	-6	-3	-4	-3	-4	-3	-4	-3	3
63		-16	-15	-14	-12	-12	-12	-8	-11	-10	-8	-7	-6	-2	-4	-2	-4	-2	-4	-2	2
80		-16	-15	-14	-14	-14	-12	-9	-10	-11	-10	-9	-8	-2	-5	-2	-5	-2	-5	-2	2
100		-16	-15	-13	-14	-13	-13	-12	-9	-10	-10	-9	-8	-1	-4	-1	-4	-1	-4	-1	1
125		-13	-14	-12	-13	-13	-13	-10	-12	-10	-9	-7	-6	-1	-6	-1	-6	-1	-6	-1	1
160		-12	-10	-11	-12	-12	-13	-11	-8	-10	-9	-8	-6	-4	-1	-6	-4	-1	-6	-4	2
200		-12	-11	-12	-12	-13	-13	-11	-6	-9	-7	-5	-3	-1	-8	-4	-7	-2	-7	-2	0
250		-12	-11	-13	-13	-14	-12	-8	-11	-8	-8	-7	-4	-1	-8	-4	-7	-1	-7	-1	-1
315		-11	-9	-11	-11	-13	-11	-9	-10	-9	-7	-7	-3	-3	-6	-6	-6	-6	-6	-6	-1
400		-10	-10	-10	-10	-12	-12	-12	-9	-10	-9	-6	-2	-1	-3	-6	-5	-5	-5	-5	-3
500		-9	-9	-8	-10	-11	-10	-11	-10	-11	-9	-5	-2	-1	-4	-6	-5	-5	-5	-5	-4
630		-9	-6	-7	-10	-10	-9	-9	-9	-9	-12	-9	-5	-0	-0	-4	-5	-5	-5	-5	-6
800		-9	-6	-7	-9	-9	-8	-7	-11	-8	-8	-7	-3	-1	-4	-4	-4	-4	-4	-4	-6
1000		-6	-6	-6	-6	-6	-6	-7	-6	-6	-6	-6	-3	-3	-2	-2	-2	-2	-2	-2	-7
1250		-6	-7	-4	-6	-6	-5	-5	-4	-5	-4	-4	-3	-3	-2	-2	-2	-2	-2	-2	-10
1600		-2	-3	-2	-4	-4	-5	-4	-3	-4	-3	-4	-2	-2	-1	-2	-1	-2	-1	-2	-12
2000		6	5	5	5	0	1	0	1	2	1	2	-15	-15	-15	-15	-15	-15	-15	-15	-15
2500		4	4	4	4	0	0	0	12	15	16	12	-12	-12	-12	-12	-12	-12	-12	-12	-15
3150		0	0	2	1	0	0	0	2	2	2	2	-1	-1	-1	-1	-1	-1	-1	-1	-16
4000		4	2	4	3	2	1	1	2	1	2	1	-1	-1	-1	-1	-1	-1	-1	-1	-15
5000		3	1	4	3	1	1	1	2	2	2	2	-1	-1	-1	-1	-1	-1	-1	-1	-12
6300		4	2	4	3	1	1	2	2	2	2	2	-1	-1	-1	-1	-1	-1	-1	-1	-13
8000		2	1	3	2	1	1	3	2	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-13
10000		4	2	5	3	2	1	3	2	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-13
OCTAVE																					
31.5		-12	-12	-11	-10	-9	-9	-8	-7	-7	-7	-7	-6	-6	-6	-6	-6	-6	-6	-6	7
63		-16	-15	-14	-13	-13	-13	-13	-12	-12	-12	-12	-11	-10	-10	-10	-10	-10	-10	-10	7
125		-13	-12	-12	-12	-12	-12	-12	-11	-11	-11	-11	-11	-10	-10	-10	-10	-10	-10	-10	2
250		-12	-11	-12	-12	-12	-12	-12	-11	-11	-11	-11	-11	-10	-10	-10	-10	-10	-10	-10	0
500		-10	-9	-6	-10	-10	-6	-7	-6	-7	-6	-7	-6	-5	-5	-5	-5	-5	-5	-5	-7
1000		-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-5	-5	-5	-5	-5	-5	-5	-5	-7
2000		4	3	3	3	3	3	3	2	2	2	2	-1	-1	-1	-1	-1	-1	-1	-1	-5
4000		2	1	3	2	2	2	2	1	2	2	2	-1	-1	-1	-1	-1	-1	-1	-1	-5
8000		3	2	4	2	1	1	1	2	2	2	2	-1	-1	-1	-1	-1	-1	-1	-1	-5
OVERALL		-5	-5	-4	-5	-6	-6	-6	-7	-7	-7	-7	-1	-1	-1	-1	-1	-1	-1	-1	0

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:		OPERATION:										METEOROLOGY:									
		MILITARY POWER		TEMP	28 C		HG		REL HUMID.		BAR PRESS		.762 M HG		18 SEP 76		TEST 76-011-001		OMEGA 1.4		
		95.5% RPM													RUN 04						
		SINGLE ENGINE													PAGE 4						
		FREE FLOW																			
FREQ	(HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
1/3 OCTAVE																					
F-101B AIRCRAFT	25	-8	-6	-7	-7	-7	-6	-6	-7	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	3
J57-P-55 ENGINE	31.5	-11	-13	-12	-11	-11	-9	-9	-8	-7	-7	-6	-6	-6	-6	-6	-6	-6	-6	-6	0
FAR FIELD NOISE	40	-12	-13	-14	-11	-10	-8	-9	-8	-7	-6	-5	-5	-4	-4	-3	-2	-2	-2	-2	-5
	50	-14	-13	-13	-11	-10	-9	-8	-9	-8	-7	-5	-2	-5	-6	-7	-7	-7	-7	-7	-5
	63	-15	-15	-14	-13	-11	-12	-11	-11	-10	-9	-8	-7	-7	-6	-5	-5	-5	-5	-5	-15
	80	-15	-15	-14	-14	-12	-13	-12	-11	-12	-10	-9	-8	-7	-6	-5	-5	-5	-5	-5	-16
	100	-16	-17	-14	-14	-13	-11	-11	-13	-12	-10	-9	-8	-7	-6	-5	-4	-4	-4	-5	-21
	125	-14	-15	-14	-15	-13	-14	-13	-12	-13	-11	-9	-8	-7	-6	-5	-4	-4	-4	-4	-7
	160	-11	-11	-11	-13	-12	-12	-12	-12	-12	-11	-9	-8	-7	-6	-5	-4	-4	-4	-4	-20
	200	-12	-11	-12	-13	-13	-12	-12	-9	-11	-11	-10	-9	-8	-7	-6	-5	-4	-4	-4	-22
	250	-11	-11	-12	-13	-13	-14	-12	-10	-11	-10	-7	-7	-6	-5	-4	-3	-2	-2	-2	-20
	315	-14	-12	-13	-12	-13	-13	-11	-10	-11	-11	-9	-8	-7	-6	-5	-4	-3	-2	-2	-21
	400	-9	-12	-10	-11	-11	-13	-13	-11	-11	-11	-9	-8	-7	-6	-5	-4	-3	-3	-3	-21
	500	-6	-10	-9	-11	-11	-12	-12	-12	-12	-10	-8	-7	-6	-5	-4	-3	-3	-3	-3	-21
	630	-10	-9	-8	-9	-10	-9	-9	-12	-10	-10	-8	-7	-6	-5	-4	-3	-3	-3	-3	-22
	800	-11	-9	-6	-6	-9	-7	-10	-8	-10	-7	-7	-6	-5	-4	-3	-3	-3	-3	-3	-22
	1000	-9	-9	-7	-7	-6	-6	-5	-7	-6	-6	-5	-5	-5	-5	-5	-5	-5	-5	-5	-21
	1250	-10	-10	-9	-6	-6	-5	-7	-5	-5	-6	-5	-5	-5	-5	-4	-4	-4	-4	-4	-23
	1600	-7	-7	-7	-7	-6	-4	-4	-3	-3	-3	-2	-2	-2	-2	-2	-2	-2	-2	-2	-22
	2000	-6	-7	-5	-5	-4	-3	-2	-2	-1	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-23
	2500	-6	-6	-3	-6	-4	-2	-2	0	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-23
	3150	-5	-6	-4	-4	-4	-1	-1	0	1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-23
	4000	-6	-6	-4	-4	-4	-2	-1	0	1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-23
	5000	-6	-7	-5	-6	-5	-3	-2	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-23
	6300	-6	-6	-5	-6	-5	-3	-2	0	1	-1	-2	-1	-1	-1	-1	-1	-1	-1	-1	-22
	8000	-7	-7	-6	-6	-5	-5	-3	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-22
	10000	-10	-10	-9	-9	-7	-5	-5	-3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-21
OCTAVE	31.5	-11	-12	-12	-10	-7	-8	-9	-8	-7	-6	-6	-6	-6	-6	-6	-6	-6	-6	-6	-2
	63	-15	-15	-14	-13	-13	-12	-12	-11	-11	-10	-11	-11	-10	-10	-9	-9	-9	-9	-9	-15
	125	-13	-13	-13	-14	-14	-13	-13	-12	-12	-11	-11	-11	-10	-10	-9	-9	-9	-9	-9	-21
	250	-12	-12	-12	-13	-13	-12	-12	-11	-11	-10	-10	-10	-9	-9	-8	-8	-8	-8	-8	-21
	500	-9	-11	-10	-11	-11	-12	-11	-11	-10	-10	-9	-9	-8	-8	-7	-7	-7	-7	-7	-21
	1000	-10	-9	-8	-8	-7	-7	-6	-6	-5	-5	-4	-4	-4	-4	-3	-3	-3	-3	-3	-21
	2000	-7	-8	-6	-6	-5	-5	-4	-4	-3	-3	-2	-2	-2	-2	-1	-1	-1	-1	-1	-21
	4000	-6	-6	-4	-4	-4	-2	-1	0	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-21
	8000	-9	-9	-6	-7	-6	-4	-4	-2	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-21
OVERALL	-11	-11	-10	-11	-11	-10	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-18

TABLE: DIRECTIVITY INDEX (DB)

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												IDENTIFICATION:								
												TEST 78-011-001								
												RUN 05								
NOISE SOURCE/SUBJECT:						OPERATION:						METEOROLOGY:								
F-101B AIRCRAFT						AFT BURNER POWER						TEMP = 28 C	OMEGA 1 ^{•4}							
J57-P-55 ENGINE						962 RPM						BAR PRESS = .762 M HG	TEST 78-011-001							
FAR FIELD NOISE						SINGLE ENGINE						REL HUMID = 82 %	RUN 05							
						FREE FLOW							PAGE 4							
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
1/3 OCTAVE																				
25	-6	-6	-6	-6	-7	-6	-6	-6	-6	-5	-5	-9	-7	-4	-1	4	6	8	5	
31.5	-11	-10	-10	-9	-10	-7	-7	-6	-6	-8	-8	-7	-7	-1	5	6	6	6	5	
40	-13	-15	-15	-11	-11	-9	-9	-10	-10	-9	-9	-8	-8	-6	1	7	8	6	0	
50	-14	-14	-13	-13	-11	-12	-10	-10	-12	-9	-10	-8	-8	-1	7	8	5	6	0	
63	-14	-16	-14	-14	-15	-13	-11	-11	-11	-10	-9	-5	-5	2	7	8	3	5	-5	
80	-16	-15	-15	-14	-13	-14	-13	-12	-12	-11	-10	-4	-4	3	8	7	2	-6	-6	
100	-17	-16	-14	-13	-13	-13	-12	-12	-11	-10	-10	-4	-4	8	7	1	-10	-10		
125	-15	-16	-14	-14	-14	-13	-14	-14	-13	-11	-11	-6	-6	3	4	9	6	0	-11	
160	-12	-12	-13	-14	-14	-13	-12	-12	-10	-11	-10	-7	-2	4	8	6	6	2	-10	
200	-12	-12	-13	-13	-12	-11	-10	-10	-8	-10	-9	-5	-5	1	6	6	6	2	-13	
250	-12	-12	-13	-13	-13	-12	-10	-9	-10	-9	-8	-5	-5	1	7	6	4	0	-14	
315	-16	-13	-14	-14	-13	-13	-11	-11	-9	-8	-6	-3	-2	1	6	7	5	0	-15	
400	-14	-13	-12	-13	-13	-13	-13	-13	-10	-10	-8	-2	-2	2	6	6	6	0	-13	
500	-12	-12	-10	-12	-12	-12	-11	-12	-11	-12	-10	-3	-3	0	3	5	5	4	-3	
630	-14	-11	-9	-11	-8	-8	-8	-10	-7	-7	-3	2	4	4	5	4	4	-5	-13	
800	-14	-11	-10	-10	-8	-7	-6	-7	-6	-6	-2	2	4	4	4	4	4	-7	-13	
1000	-14	-12	-10	-11	-7	-7	-5	-5	-4	-4	-2	2	2	4	3	4	3	-9	-14	
1250	-15	-13	-10	-11	-9	-6	-5	-5	-3	-1	-1	3	5	2	2	2	2	-10	-14	
1600	-14	-12	-10	-10	-7	-5	-5	-3	-1	0	0	3	4	1	1	1	2	-10	-15	
2000	-14	-11	-9	-9	-6	-4	-4	-2	0	0	1	4	3	0	0	0	2	-11	-17	
2500	-13	-11	-9	-9	-5	-4	-2	-1	1	2	2	3	4	-1	-1	-1	2	-13	-18	
3150	-13	-10	-8	-7	-4	-3	-1	1	1	2	3	3	3	-1	-2	1	-15	-20		
4000	-14	-6	-7	-6	-4	-3	0	2	1	2	2	3	1	-2	0	-15	0	-20		
5000	-11	-9	-9	-7	-5	-4	-2	1	1	3	3	3	-1	-1	0	-16	0	-20		
6300	-12	-11	-9	-8	-5	-5	-2	0	2	2	3	3	-1	-2	1	-15	0	-20		
8000	-13	-11	-10	-9	-7	-6	-3	0	1	2	4	4	-2	-2	1	-16	0	-20		
10000	-14	-13	-11	-10	-8	-7	-4	-1	1	3	4	4	-1	-1	1	-17	0	-20		
OCTAVE																				
31.5	-12	-11	-12	-10	-10	-8	-8	-8	-9	-9	-8	-6	-6	1	6	7	7	3	3	
63	-15	-15	-13	-13	-13	-13	-13	-12	-11	-12	-10	-9	-5	2	7	8	3	-6	-6	
125	-14	-14	-14	-14	-14	-14	-14	-13	-13	-13	-11	-11	-6	-3	4	8	6	1	-10	
250	-13	-12	-13	-13	-13	-12	-12	-12	-11	-11	-10	-9	-6	-4	1	6	6	5	-14	
500	-13	-12	-11	-11	-12	-12	-11	-11	-10	-10	-9	-8	-4	0	3	5	5	-3	-13	
1000	-14	-12	-10	-11	-8	-7	-5	-5	-4	-4	-2	3	4	3	4	3	4	3	-14	
2000	-14	-11	-9	-9	-6	-6	-4	-4	-2	-1	0	1	3	0	0	2	2	1	-16	
4000	-12	-8	-7	-6	-4	-3	-1	2	1	2	3	3	-1	-2	0	-15	0	-20		
8000	-13	-11	-10	-9	-6	-5	-3	0	1	2	4	4	-1	-2	1	-16	0	-20		
OVERALL	-13	-13	-12	-13	-12	-11	-9	-8	-8	-8	-6	-3	1	5	7	6	1	-9	-9	

FIGURE 5
OVERALL SOUND PRESSURE LEVEL (OASPL)
EQUAL LEVEL CONTOURS (DB)

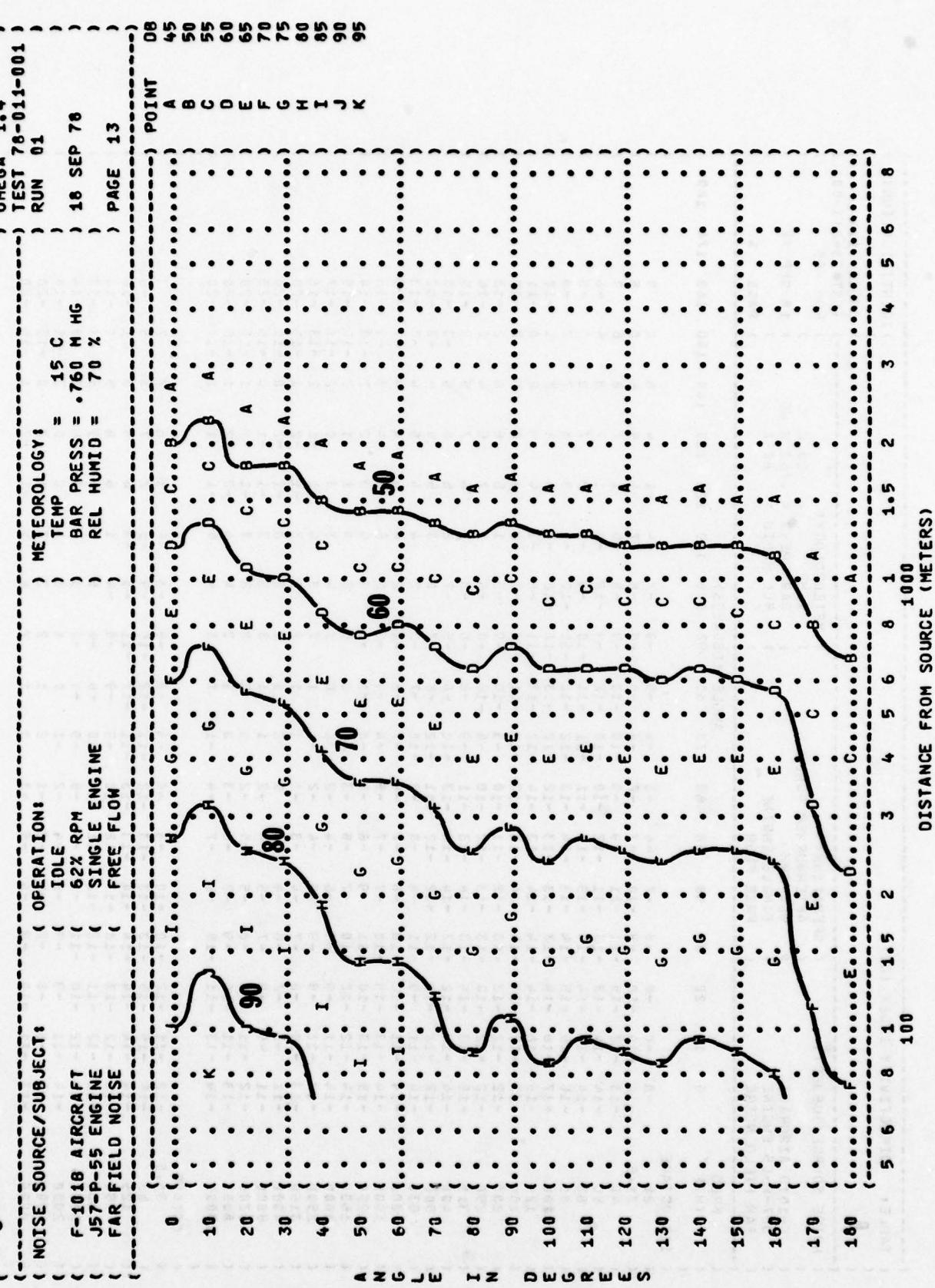


FIGURE 5
OVERALL SOUND PRESSURE LEVEL (CB)
EQUAL LEVEL CONTOURS (CB)

NOISE SOURCE/SUBJECT: F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE
OPERATION: 80% RPM
SINGLE ENGINE
FREE FLOW

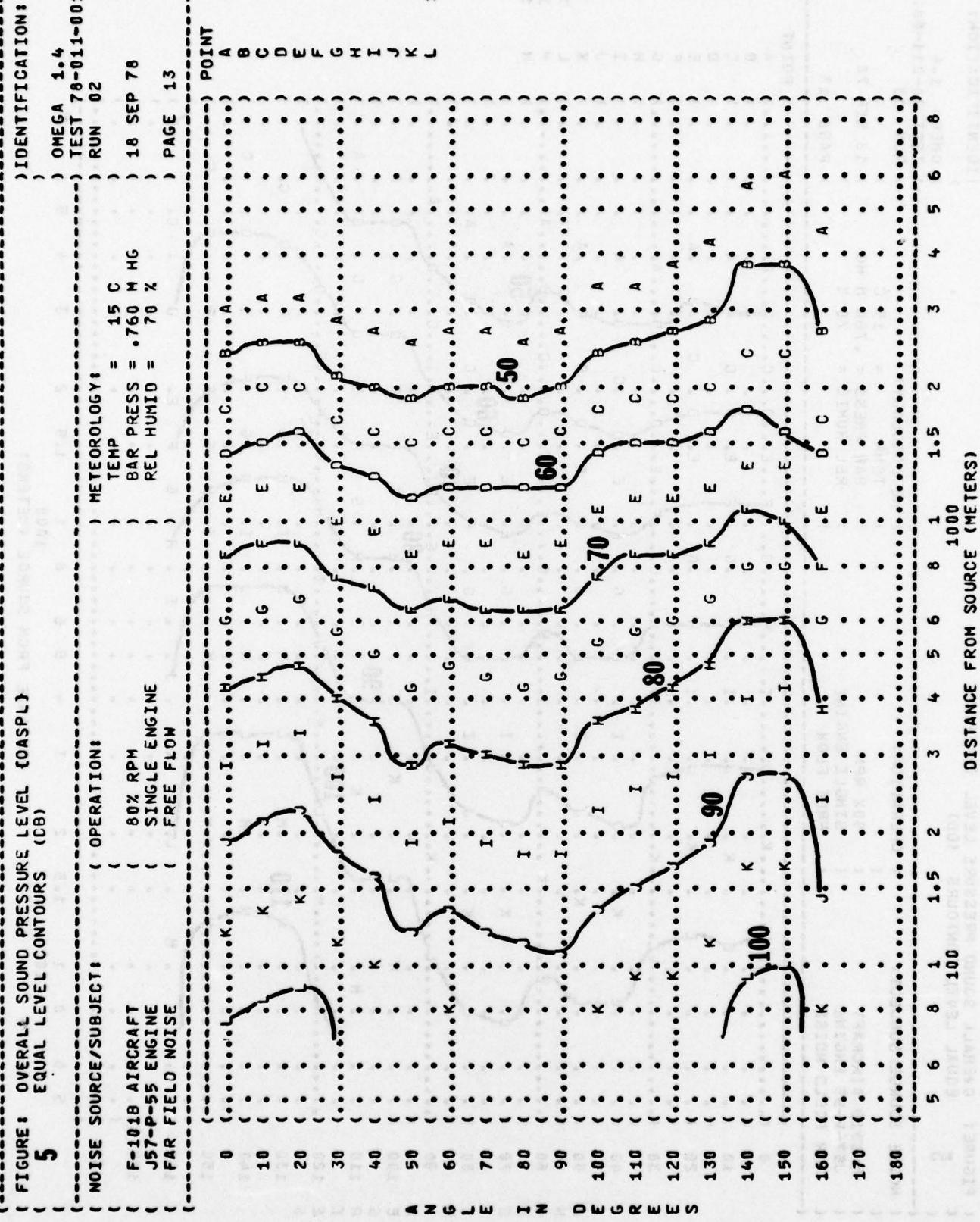


FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)
5 EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT: OPERATION:

(F-101B AIRCRAFT
(J57-P-55 ENGINE
FAR FIELD NOISE
(90% RPM
(SINGLE ENGINE
FREE FLOW

IDENTIFICATION:

OMEGA 1.4
TEST 76-013-001
RUN 03

18 SEP 76

PAGE 13

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 MM HG
REL HUMID = 70 %

POINT

08

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

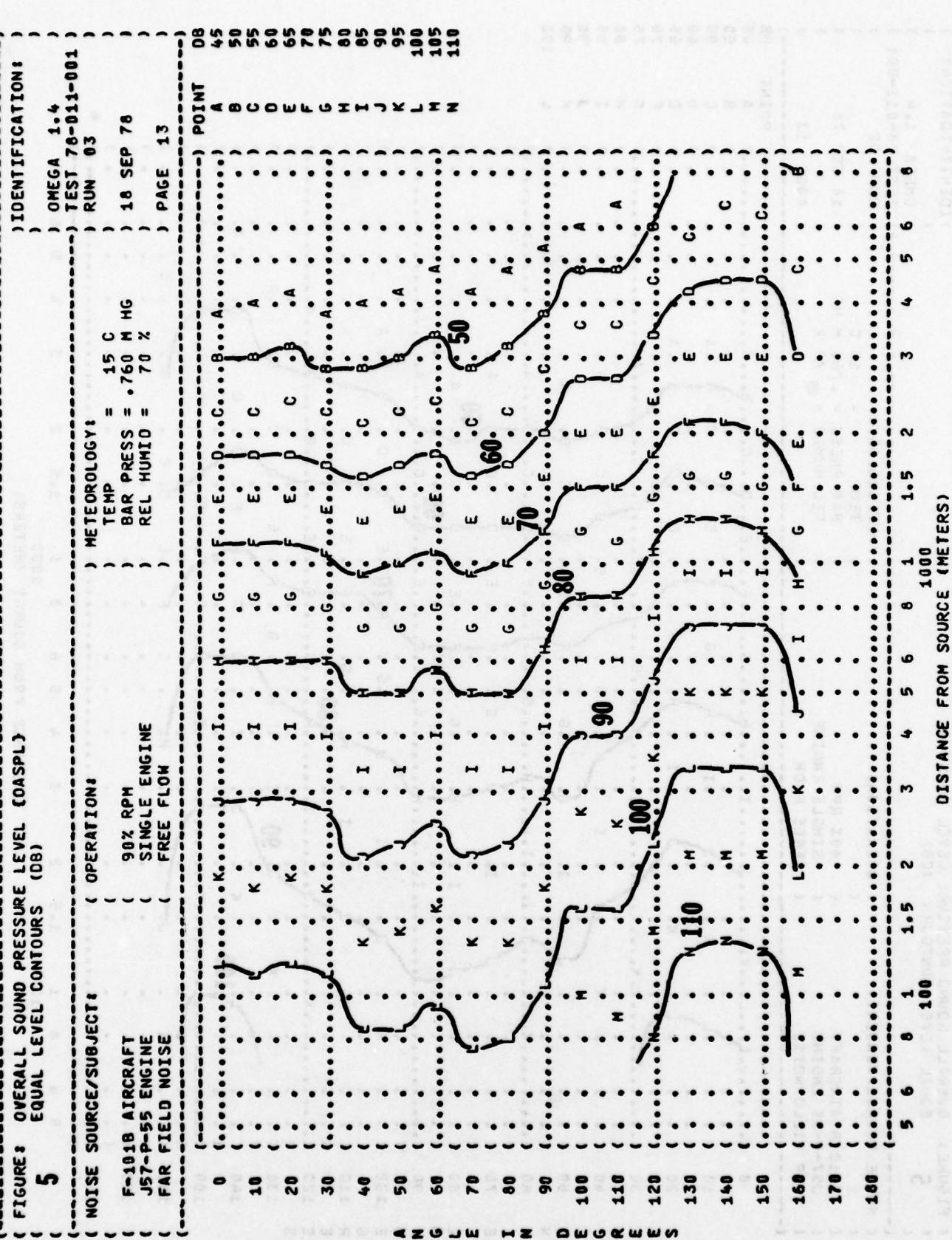


FIGURE 8: OVERALL SOUND PRESSURE LEVEL (COASPL) EQUAL LEVEL CONTOURS (dB)

NOISE SOURCE/SUBJECT:
F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

"POWER
PM
ENGINE
DN

METEOROLOGY
TEMP = 15 C
BAR PRESS = .760 HG
REL HUMID = 70 %
RUN 04
24 JAN 79
PAGE 13

FIGURE 6 C-WEIGHTED OVERALL SOUND LEVEL (OBC)
EQUAL LEVEL CONTOURS (OBC)

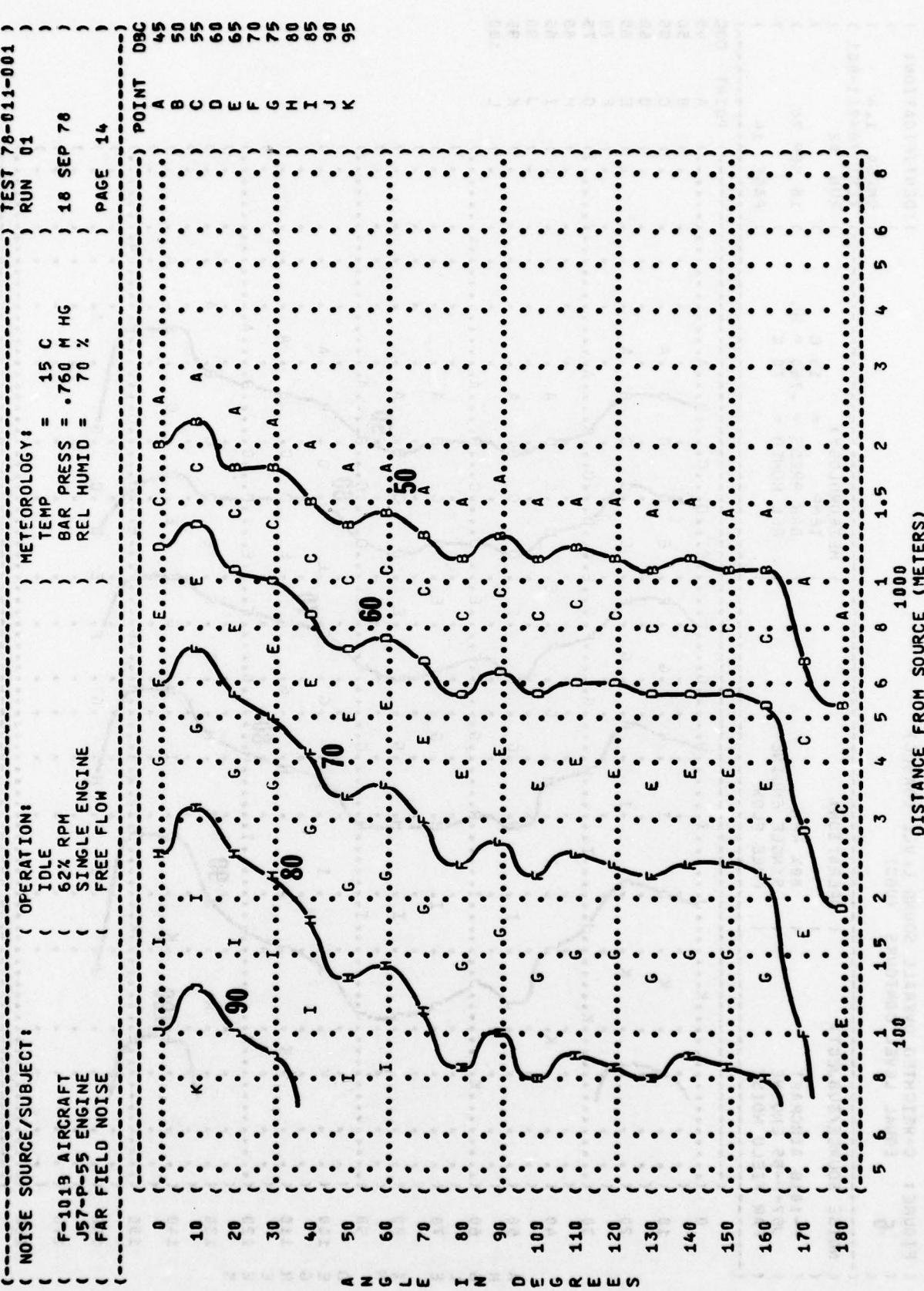


FIGURE : C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
6 EQUAL LEVEL CONTOURS (OBC)

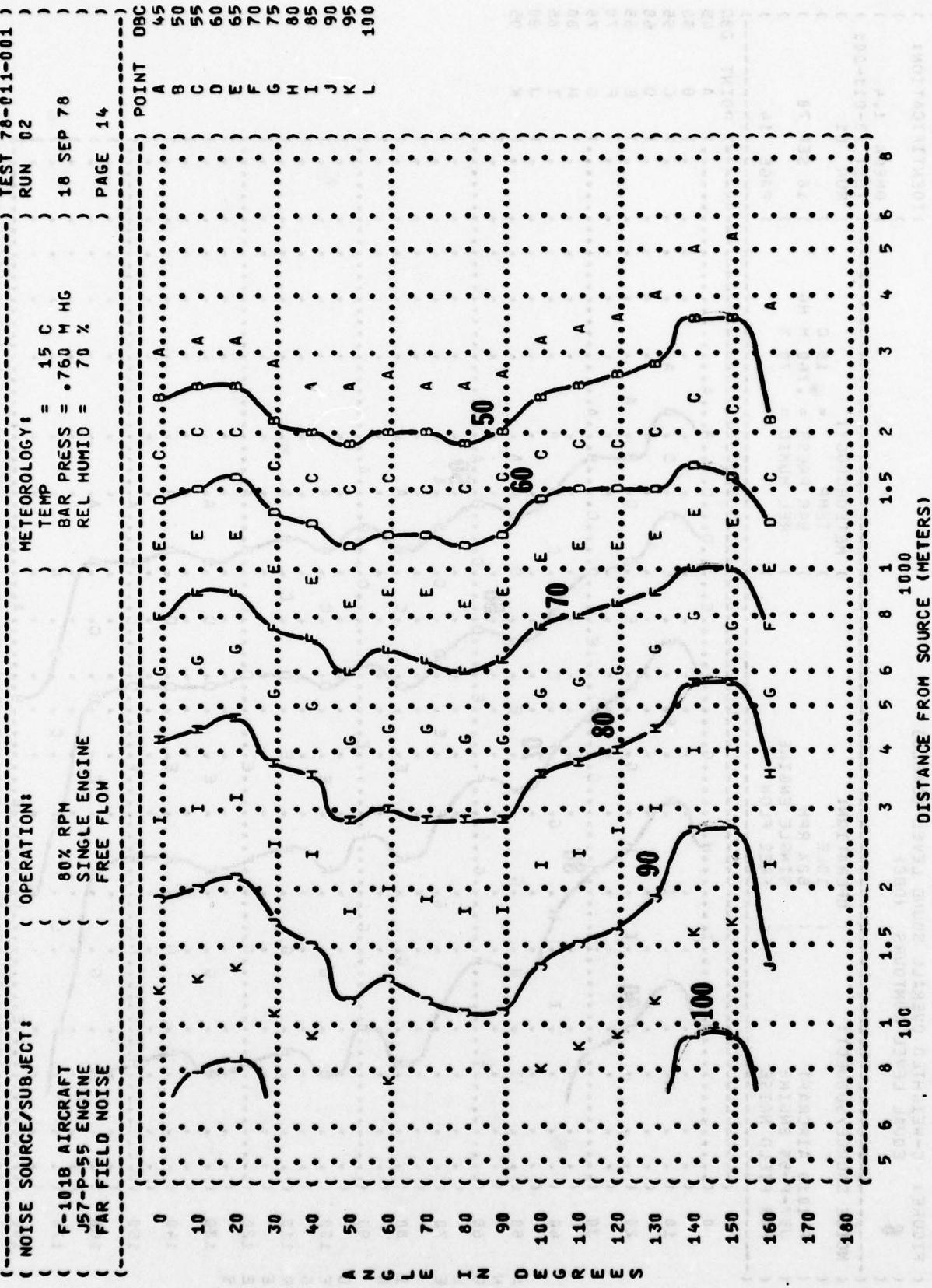


FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (DBC)
6 EQUAL LEVEL CONTOURS (DBC)

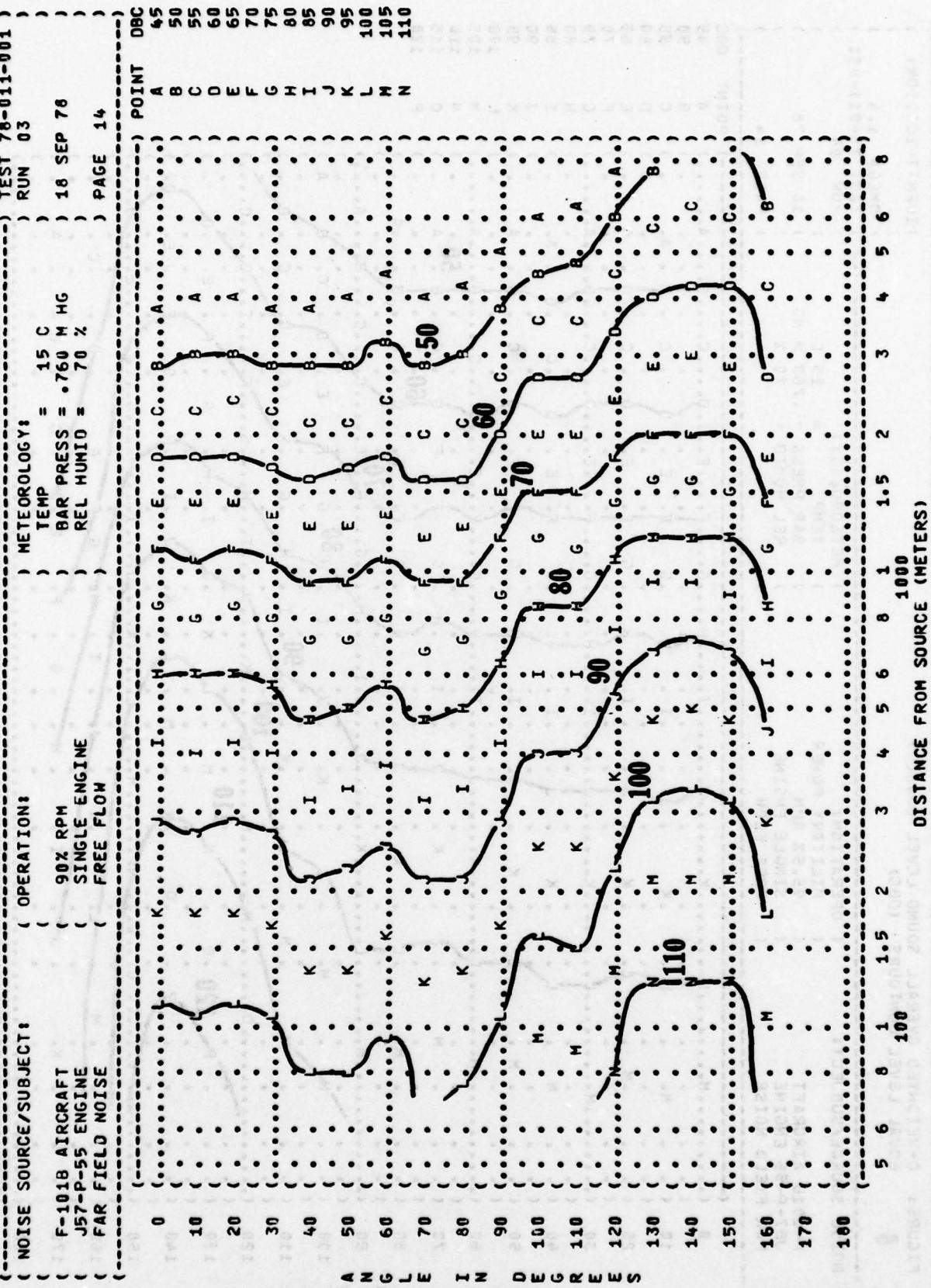


FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (DBC)
6 EQUAL LEVEL CONTOURS (DBC)

NOISE SOURCE/SUBJECT:
 F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATION:
 MILITARY POWER
 95.5% RPM
 SINGLE ENGINE
 FREE FLOW

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 MM HG
 REL HUMID = 70 %

TEST 78-011-001
 RUN 04
 16 SEP 78
 PAGE 14

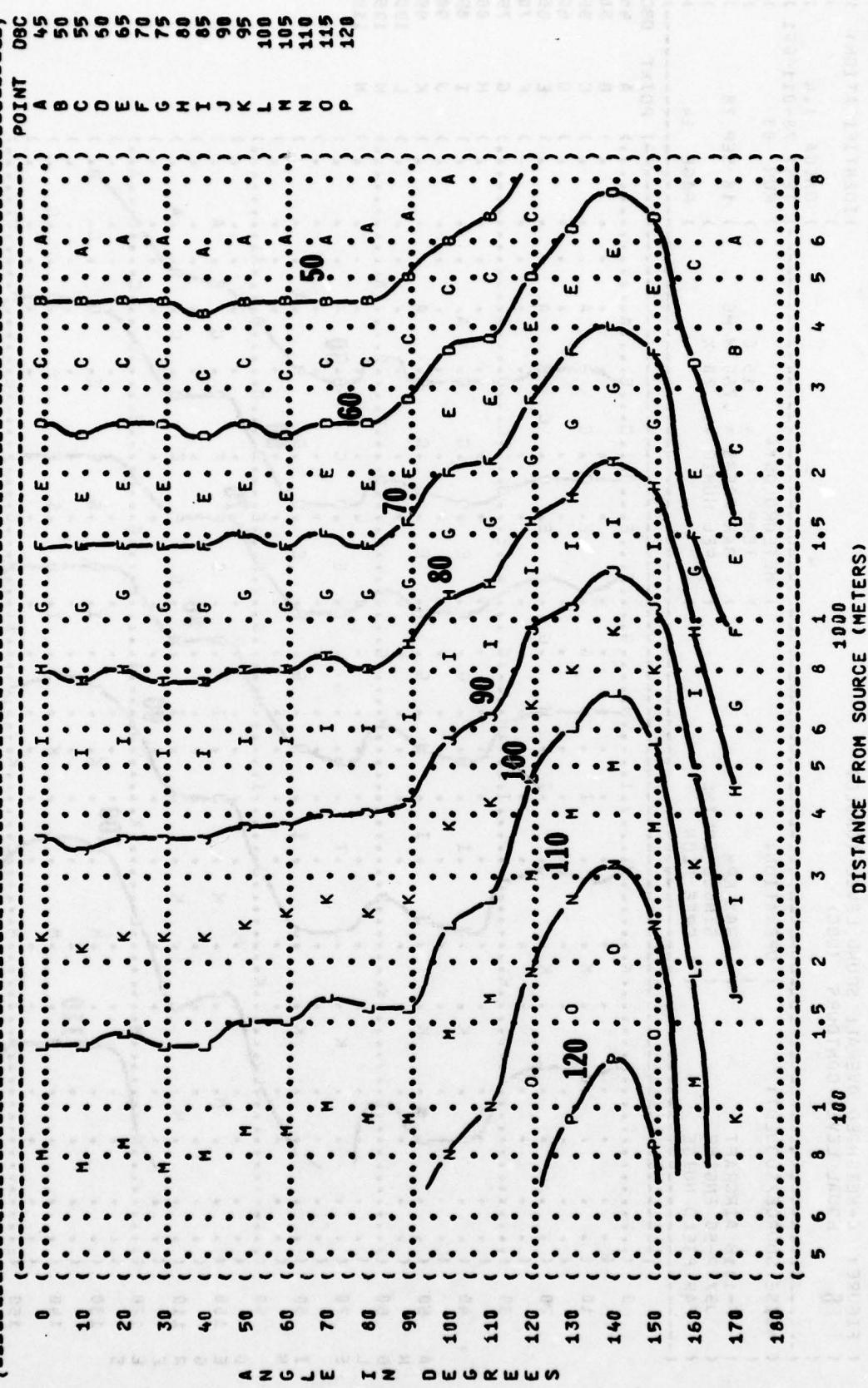


FIGURE 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (OBC)

NOISE SOURCE/SUBJECT:	OPERATION:	METEOROLOGY:
F-101B AIRCRAFT	AFTERBURNER POWER	TEMP = 15 C
J57-P-55 ENGINE	96% RPM	BAR PRESS = 760 HG
FAR FIELD NOISE	SINGLE ENGINE (FREE FLOW)	REL HUMID = 70 %
) PAGE 14
) RUN 05
) 18 SEP 78

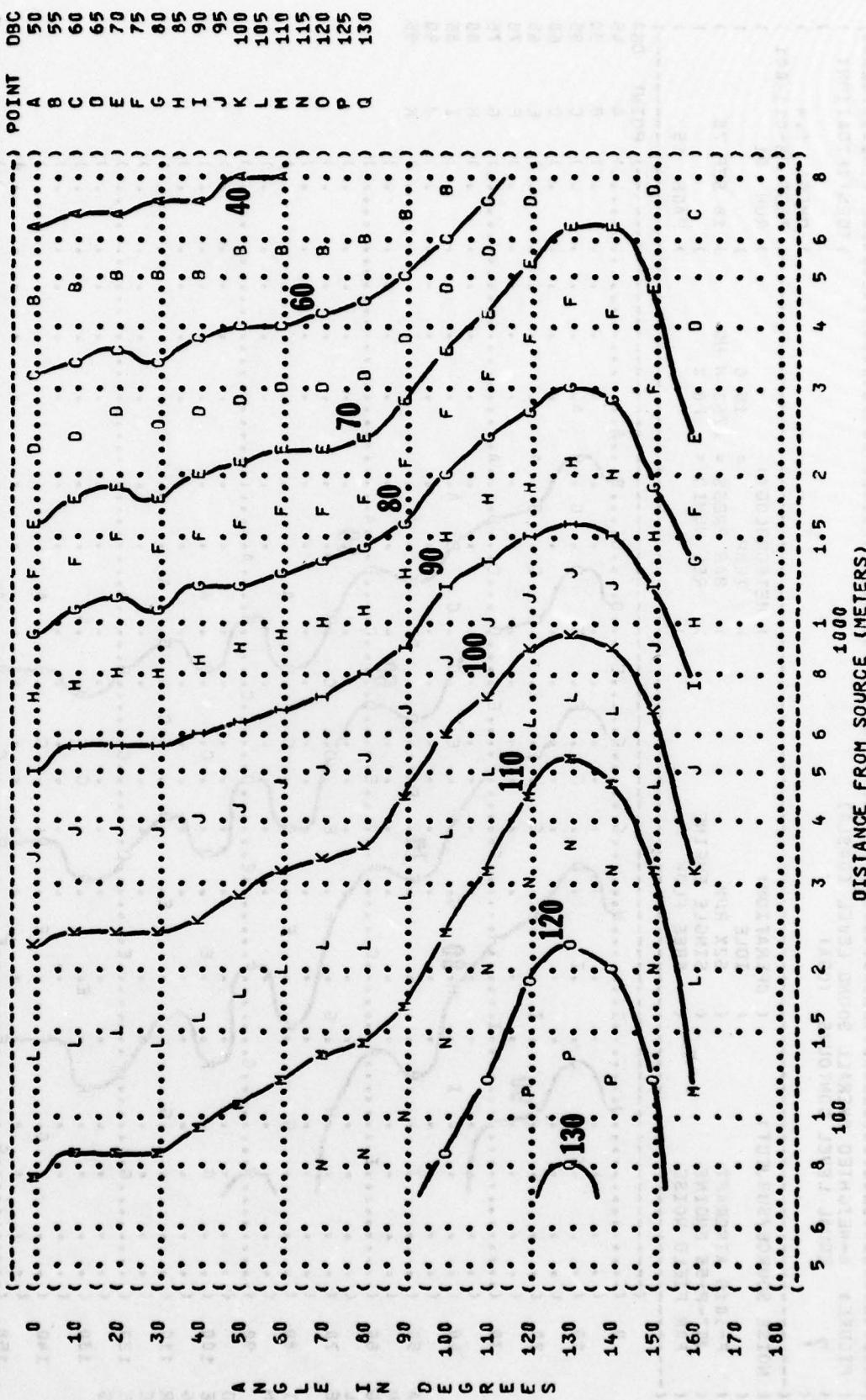


FIGURE 1 A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
EQUAL LEVEL CONTOURS (OBA)

16

FIGURE 1 A-WEIGHTED OVERALL SOUND LEVEL (COASLA)
EQUAL LEVEL CONTOURS (DBA)

NOISE SOURCE/SUBJECT:	OPERATION:
F-101B AIRCRAFT	1 IDLE
J57-P-55 ENGINE	1 62% RPM
	1 SINGLE E.

NOISE SOURCE/SUBJECT :
F-101B AIRCRAFT
JS7-P-55 ENGINE

{ OPERATION:
 { IDLE
 { 62% RPM
 { SINGLE ENGINE

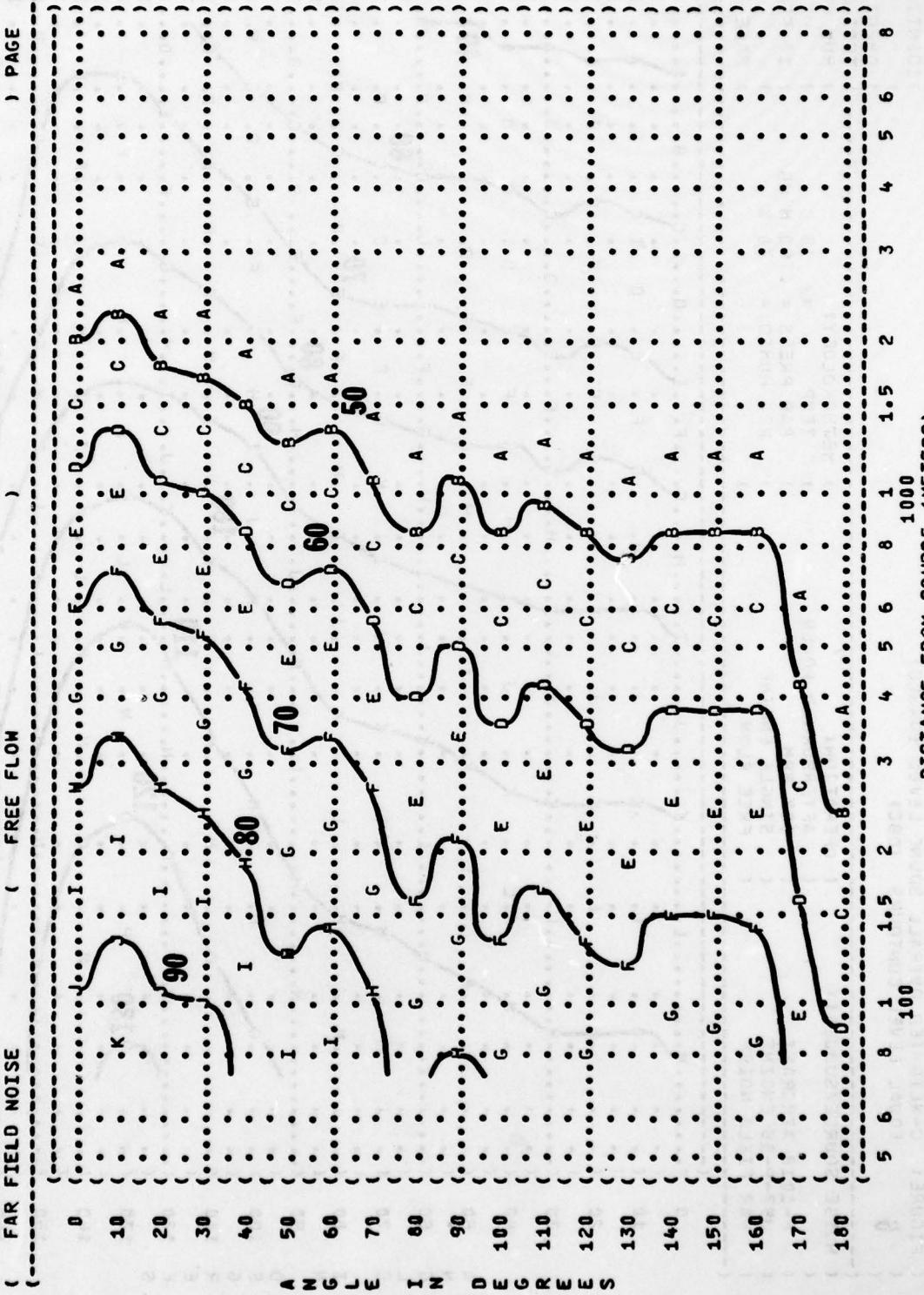
```

) METEOROLOGY:          TEST 78-011-001
) TEMP = 15 C           ) RUN 01
) BAR PRESS = .763 HG   )
) REL HUMID = 70 %       ) 16 SEP 78
)

```

) PAGE 15)

POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95



DISTANCE FROM SOURCE (METERS)

FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (DBA)
7 EQUAL LEVEL CONTOURS (DBA)

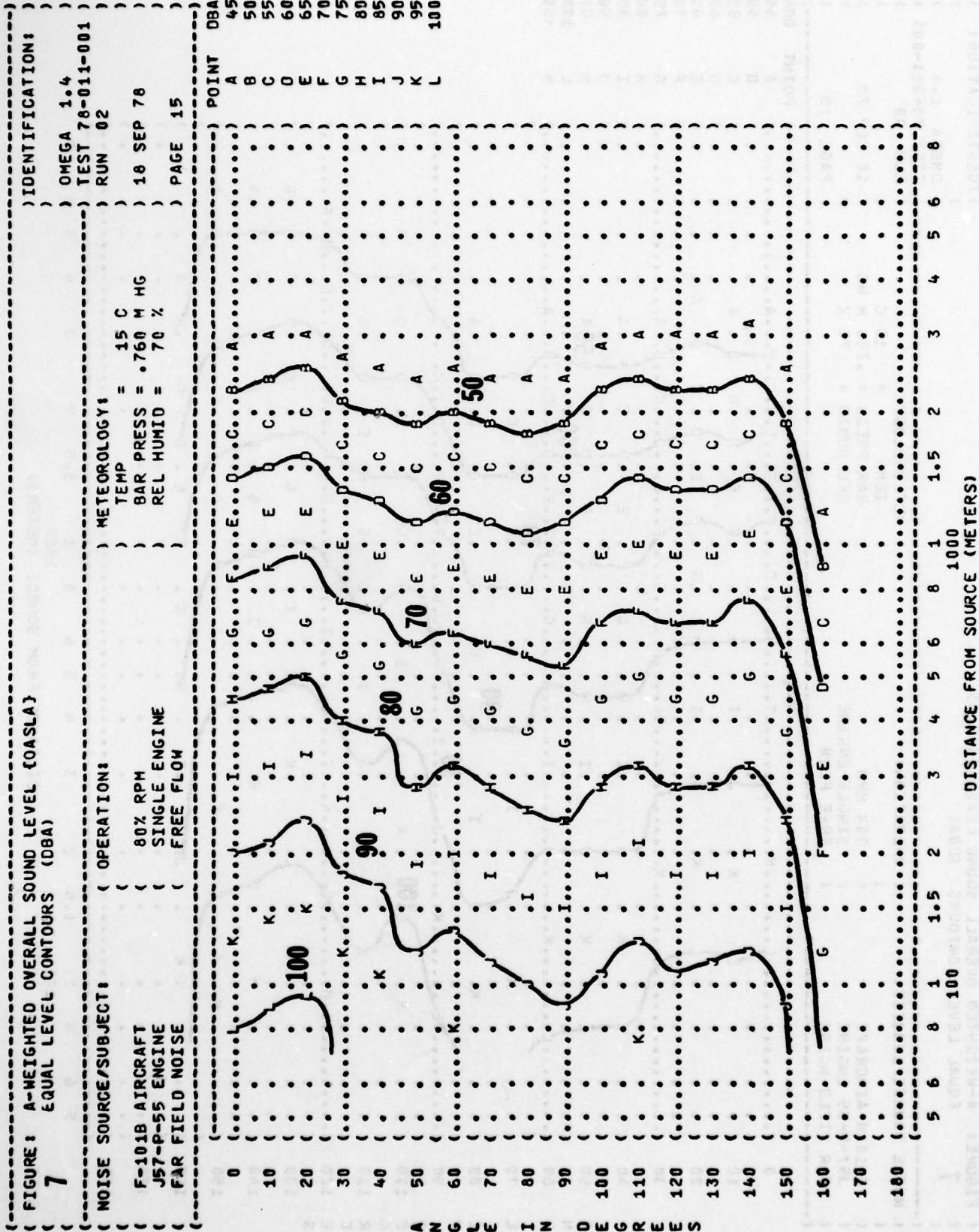


FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (DBA)
EQUAL LEVEL CONTOURS (DBA)

7

NOISE SOURCE/SUBJECT: F-101B AIRCRAFT
JS7-P-55 ENGINE
FAR FIELD NOISE

OPERATION: 90% RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:

OMEGA 1.4,
TEST 78-011-001
RUN 03

16 SEP 78

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 MM HG
REL HUMID = 70 %

PAGE 15

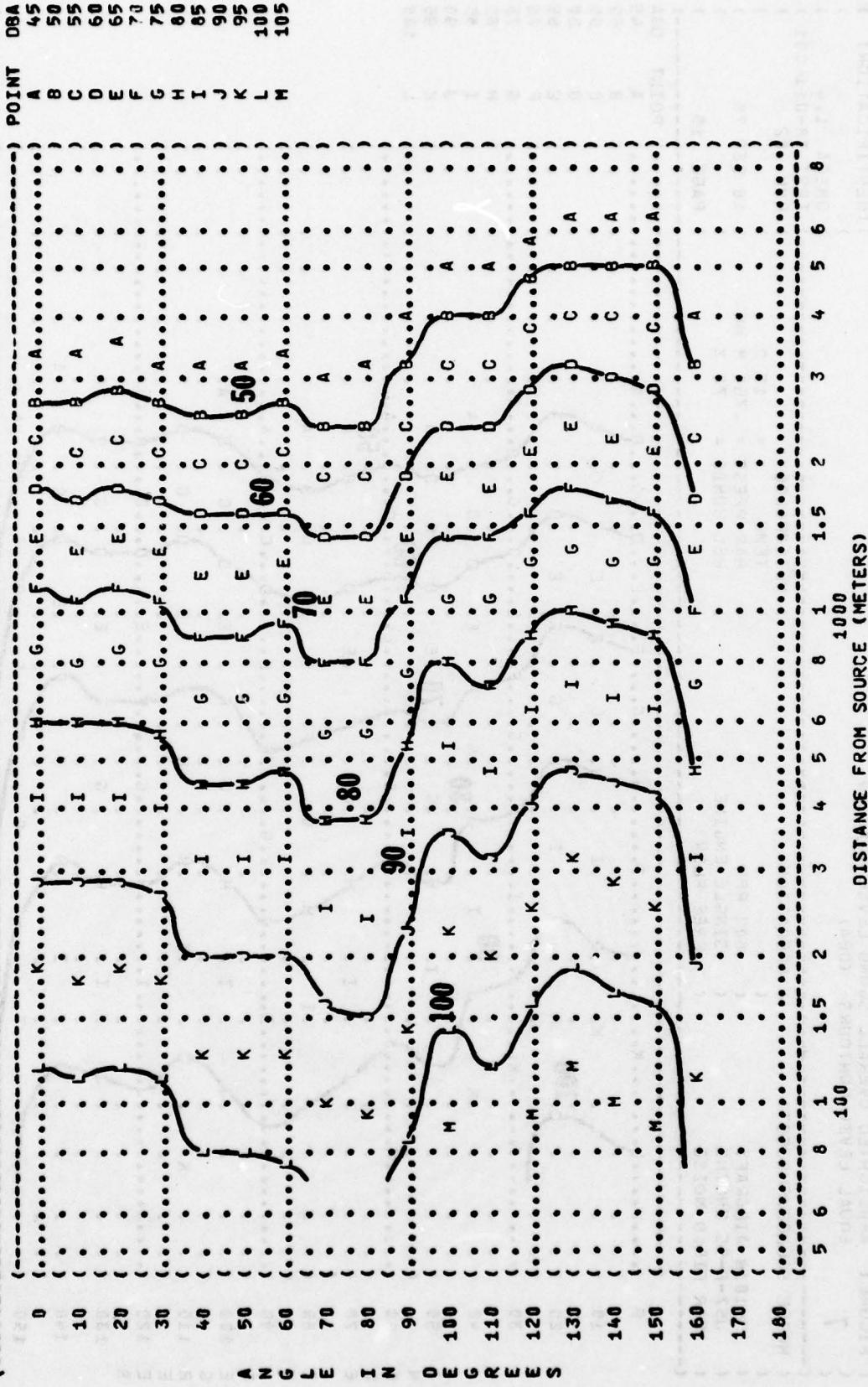


FIGURE 7
A-WEIGHTED OVERALL SOUND LEVEL (DBA)
EQUAL LEVEL CONTOURS (DBA)

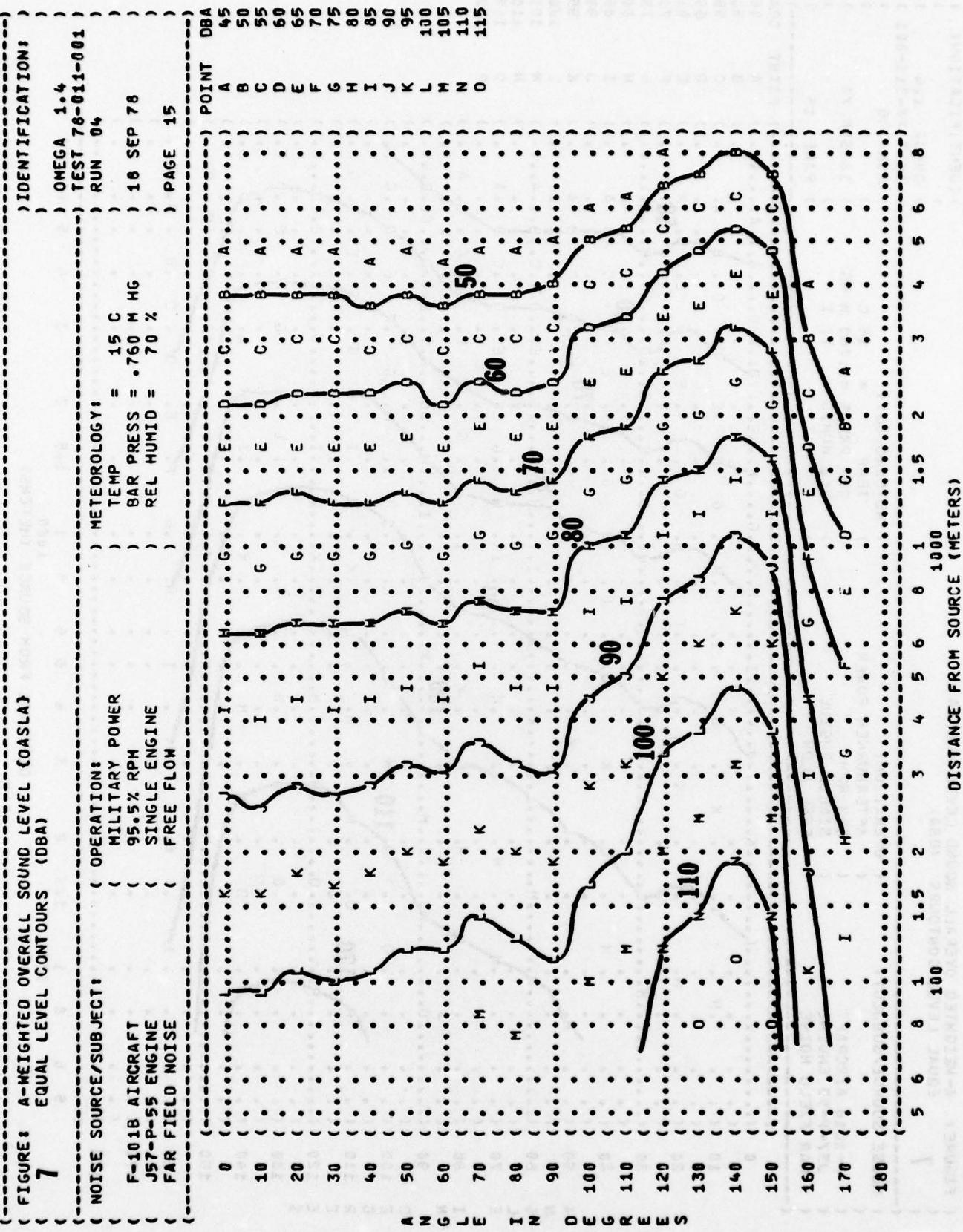


FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (DBA)
EQUAL LEVEL CONTOURS (DBA)

7

NOISE SOURCE/SUBJECT:

- () F-101B AIRCRAFT
- () J57-P-55 ENGINE
- () FAR FIELD NOISE

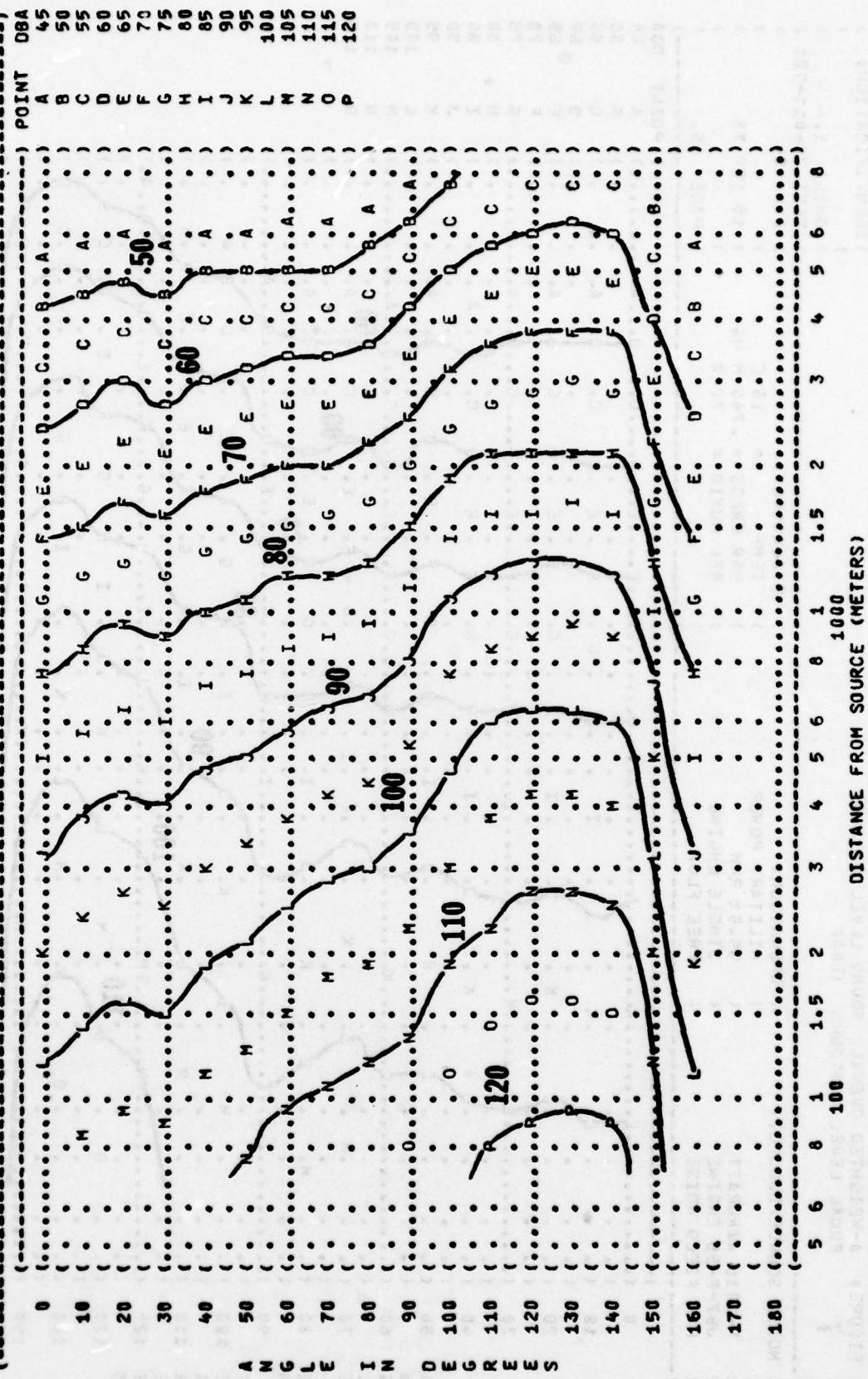
OPERATIONS:

- () AFTERBURNER POWER
- () 96% RPM
- () SINGLE ENGINE
- () FREE FLOW

METEOROLOGY:

- () TEMP = 15°C
- () BAR PRESS = 760 MM HG
- () REL HUMID = 70%

PAGE 15



(FIGURE 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
 EQUAL LEVEL CONTOURS (PNLT)

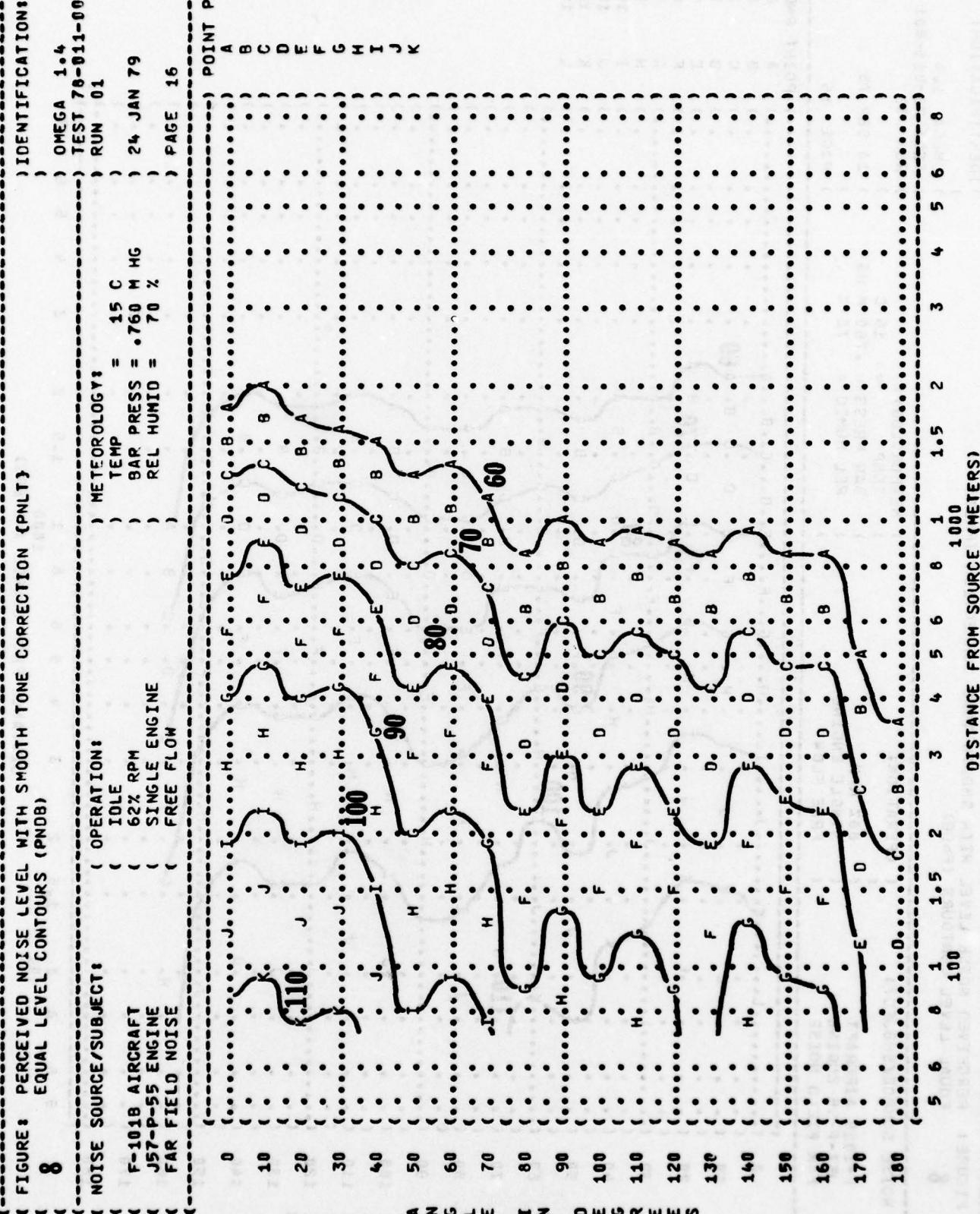


FIGURE 1 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
8 EQUAL LEVEL CONTOURS (PNDB)

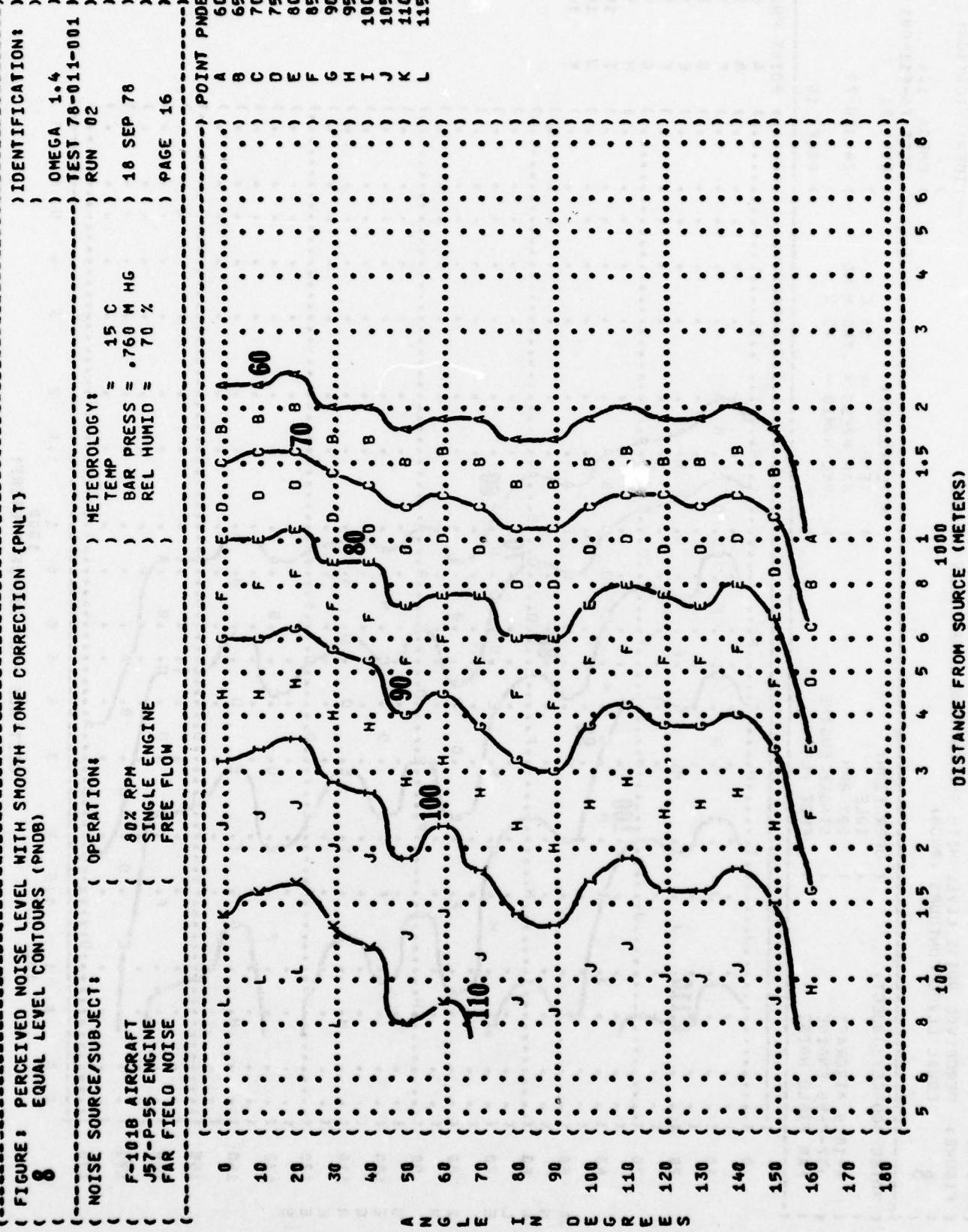


FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
8 EQUAL LEVEL CONTOURS (PNDB)

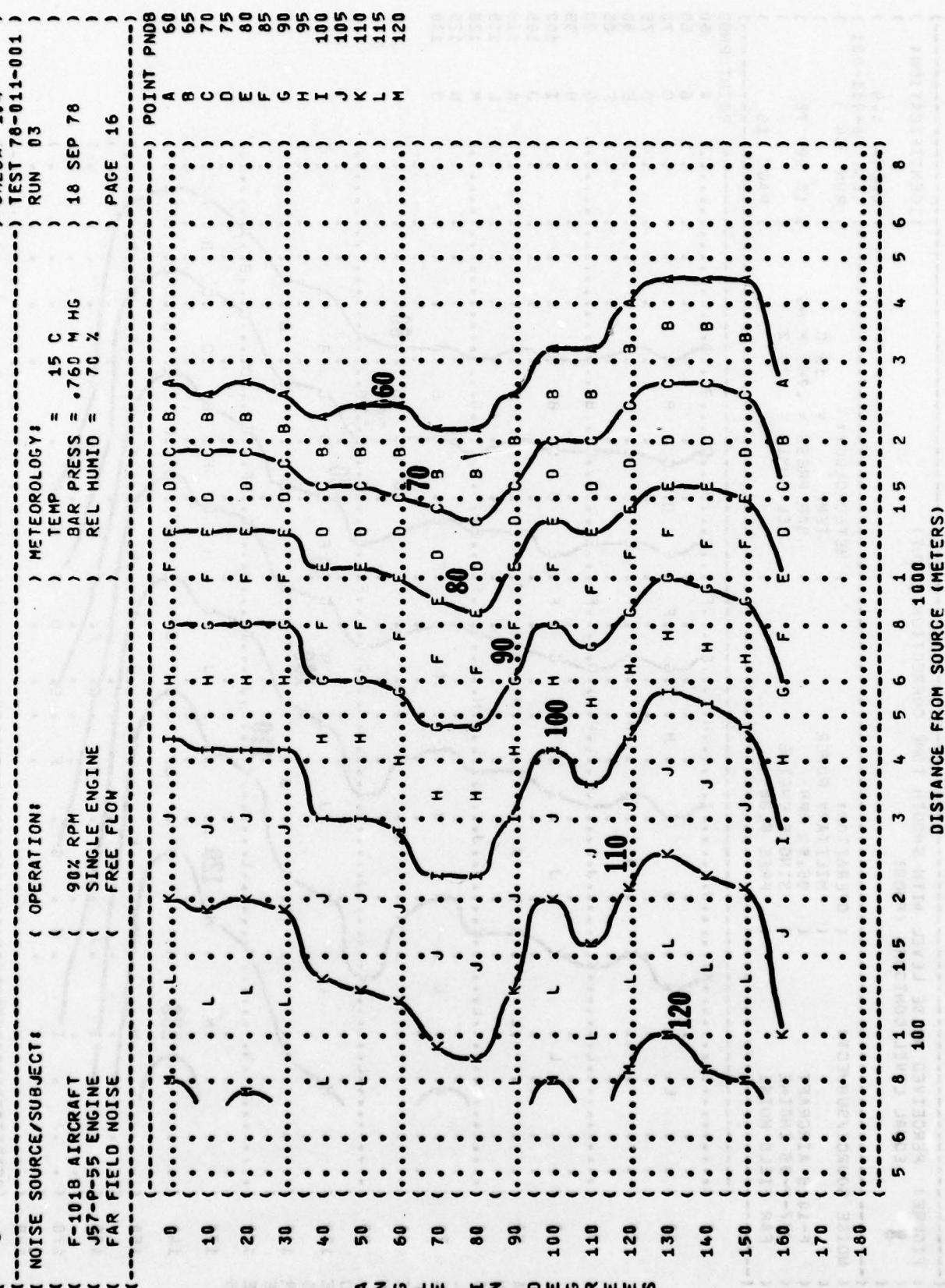


FIGURE 8 EQUAL LEVEL CONTOURS (PNLT)

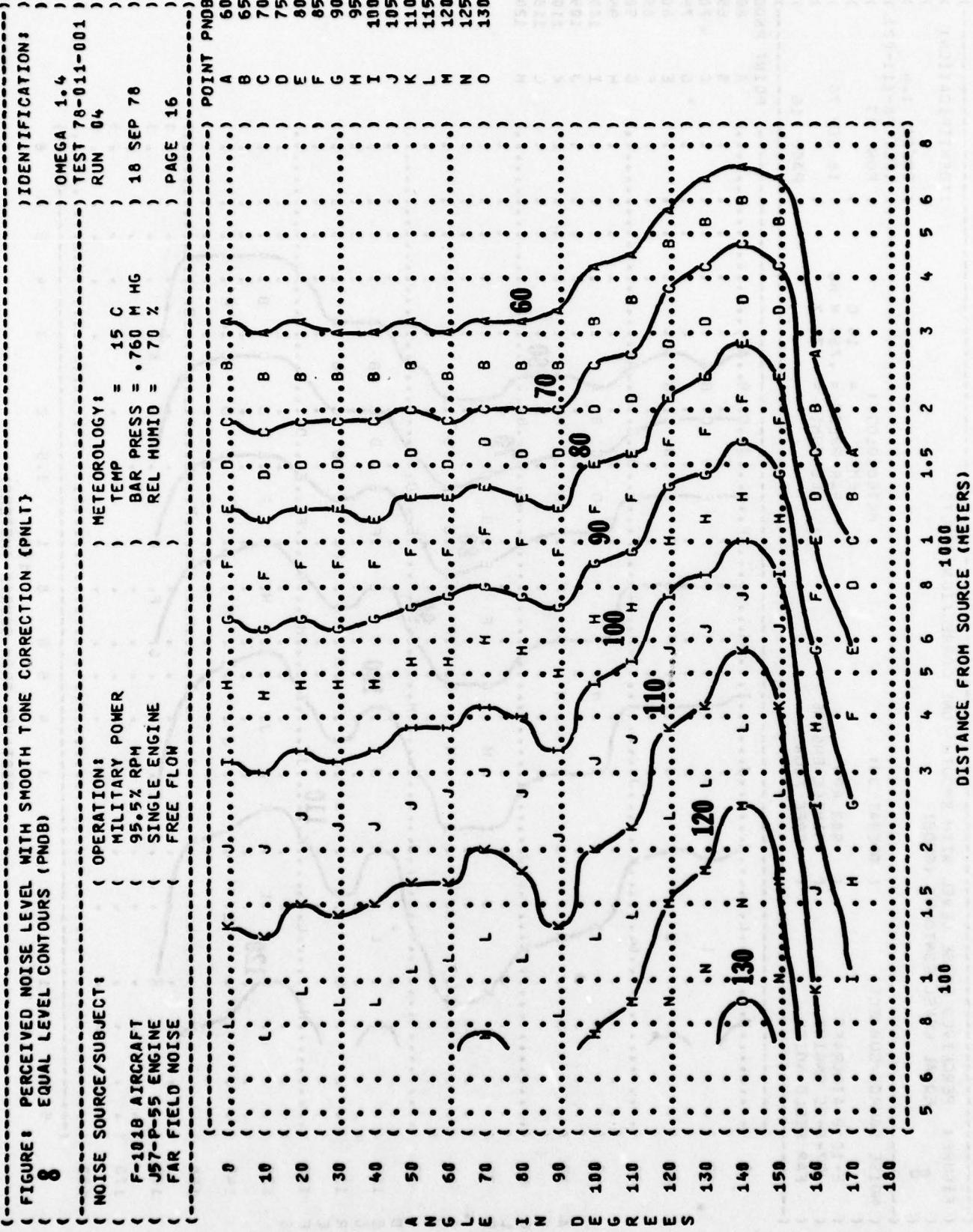


FIGURE: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
9 EQUAL LEVEL CONTOURS (DB)

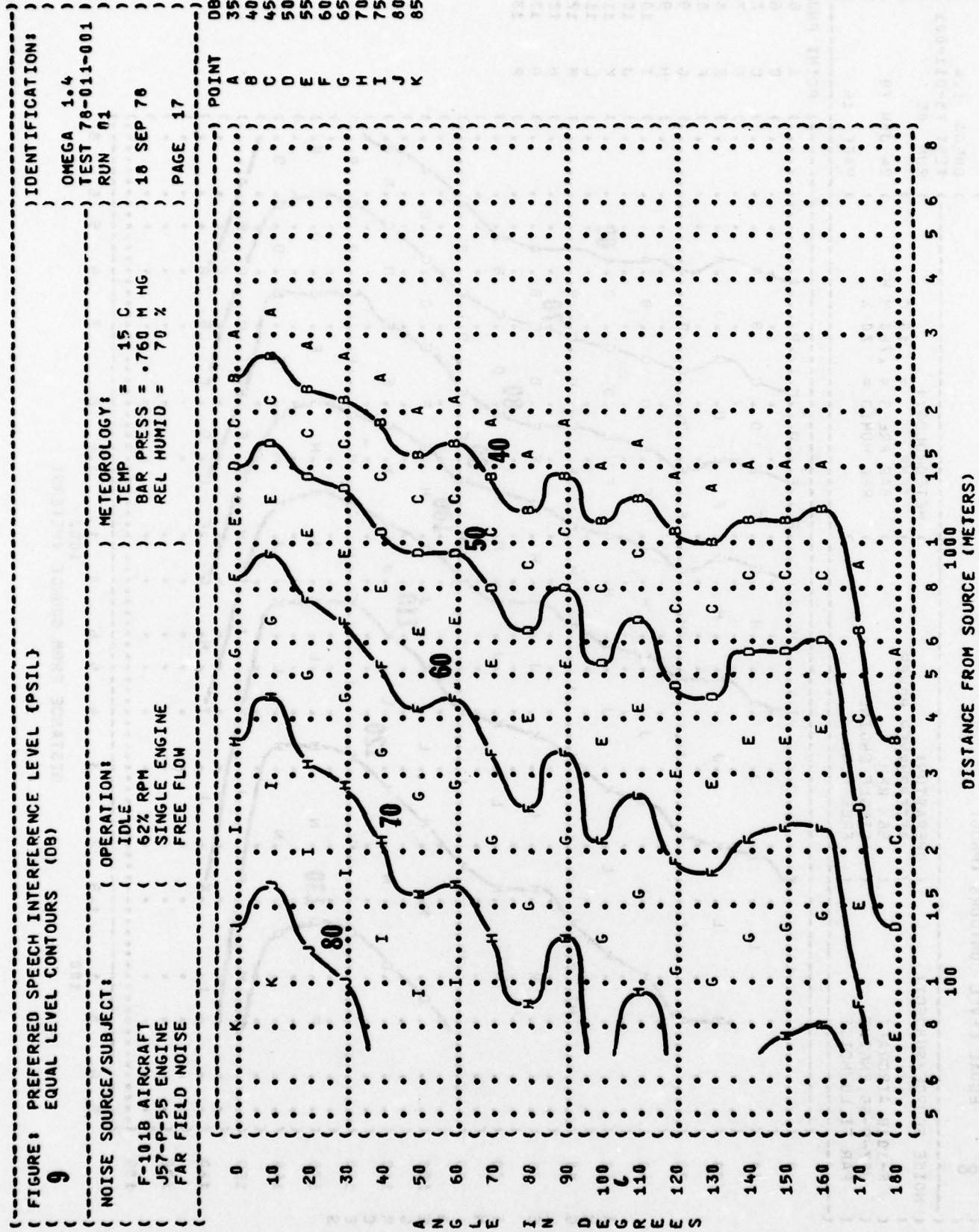


FIGURE : PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
9 EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT :
 F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATION :
 80X RPM
 SINGLE ENGINE
 FREE FLOW

IDENTIFICATION :
 OMEGA 1.4
 TEST 76-011-001
 RUN 02
 16 SEP 76
 PAGE 17

METEOROLOGY :
 TEMP = 15 C
 BAR PRESS = .760 Hg
 REL HUMID = 70 %

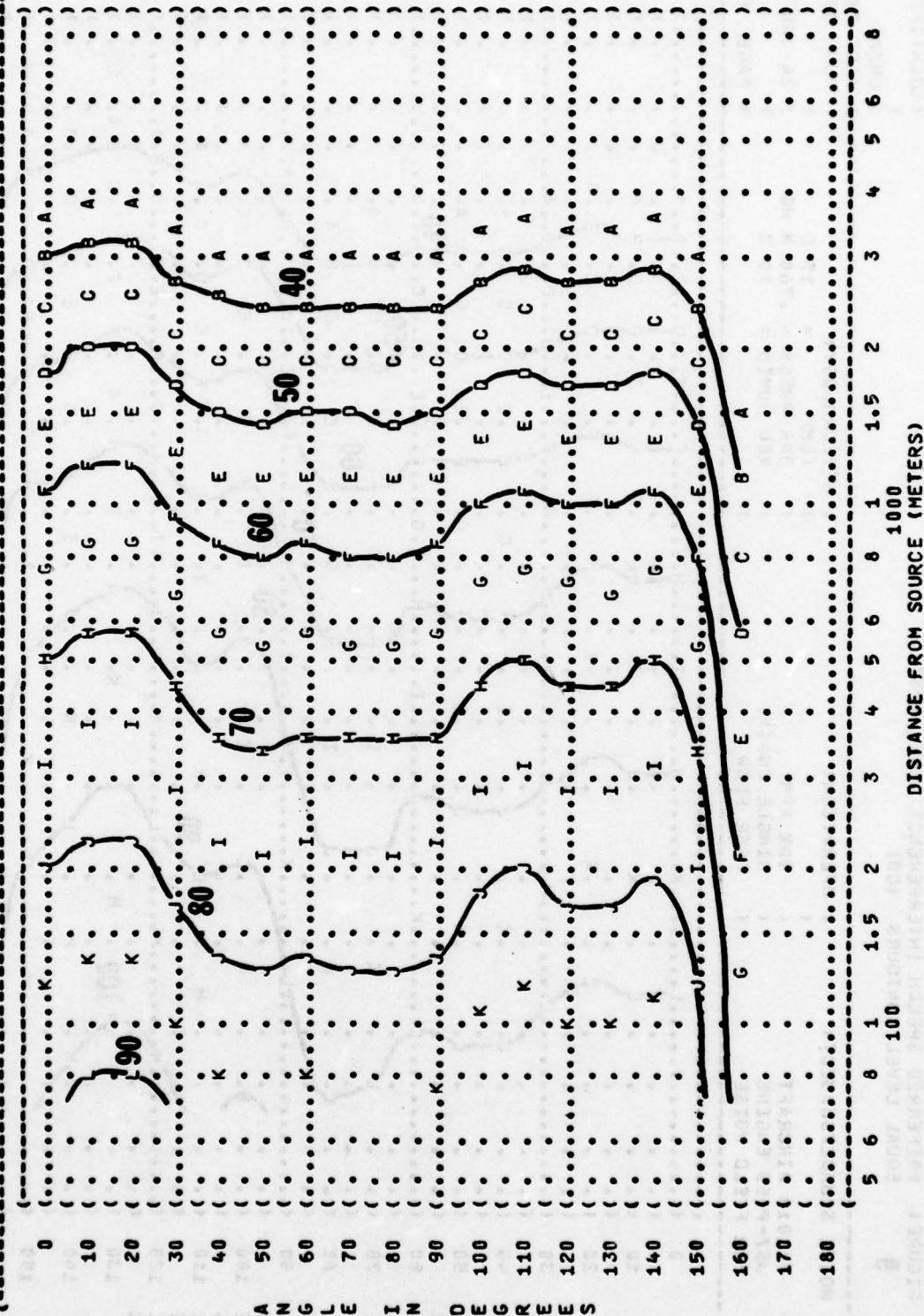


FIGURE 3 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (dB)

NOISE SOURCE/SUBJECT:

NOISE SOURCE/SUBJECT:		OPERATION:	
F-101B AIRCRAFT	MILITARY POWER	J57-P-55 ENGINE	95.5% RPM
FAIRFIELD NOISE	SINGLE ENGINE	FREE FLOW	

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 1019 Hg
REL HUMID = 70 %

The graph illustrates the distribution of various point types along a linear path. The X-axis represents distance from 0 to 110, and the Y-axis represents the point number from 0 to 110. The data points are categorized by letter, with some points also labeled with their numerical value.

Point Type	Approximate X (Distance)	Approximate Y (Point Number)
A	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
B	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
C	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
D	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
E	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
F	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
G	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
H	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
I	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
J	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
K	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
L	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
M	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
N	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
O	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
P	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
Q	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
R	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
S	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
T	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
U	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
V	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
W	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
X	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
Y	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
Z	10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110	35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105
40A	40	40
50	50	50
60	60	60
70	70	70
80	80	80

63

FIGURE: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
9 EQUAL LEVEL CONTOURS (DB)

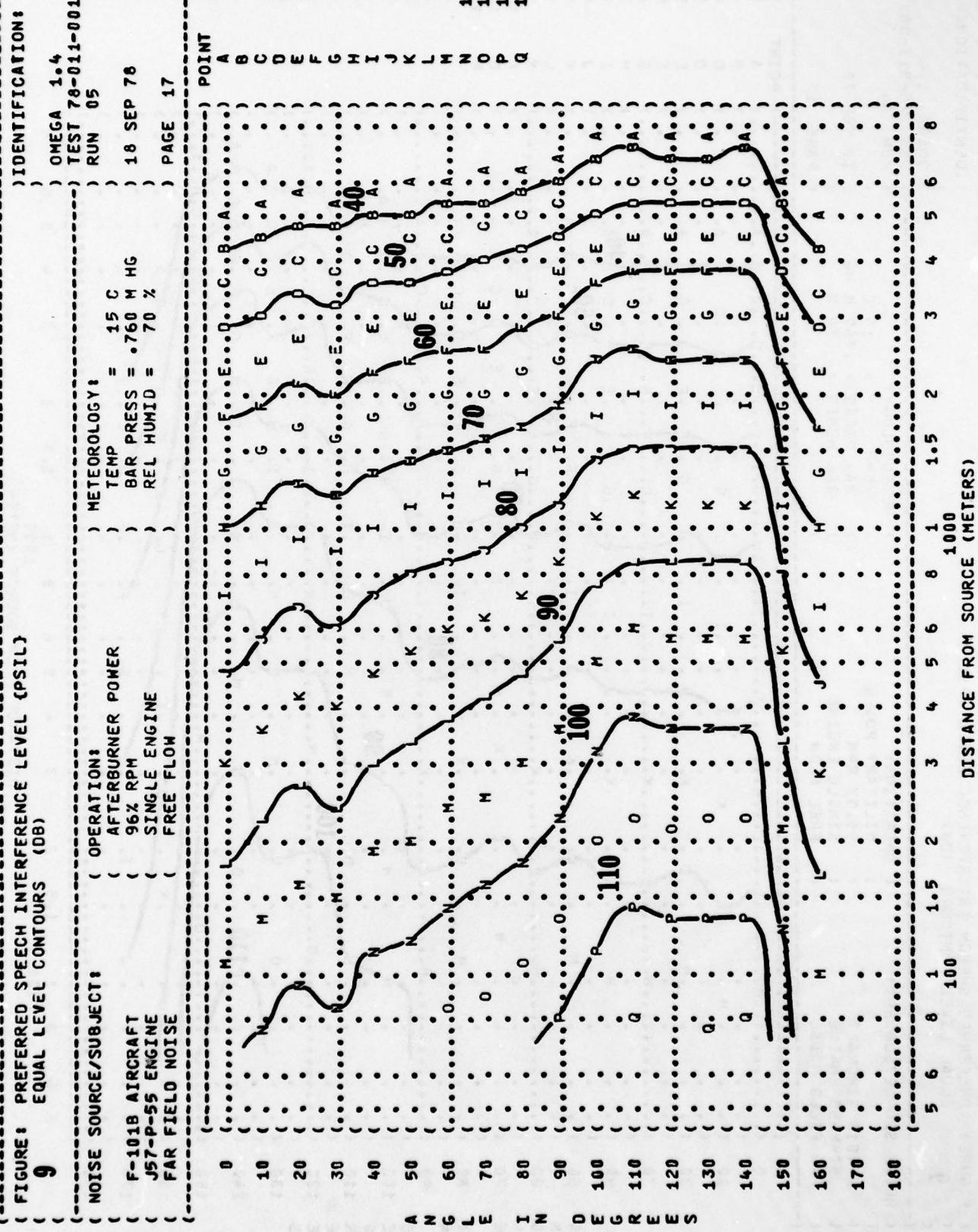
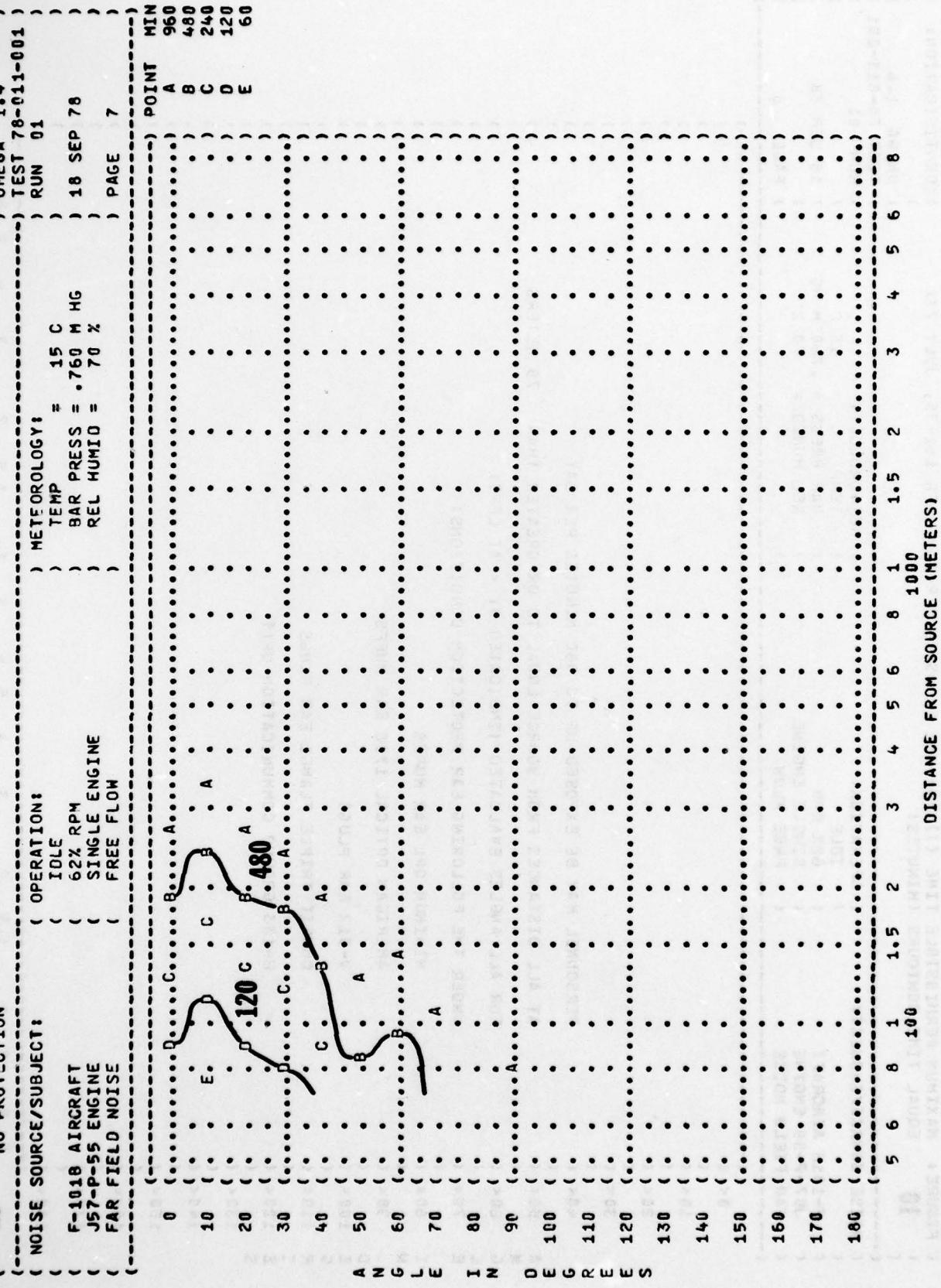


FIGURE 3 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
10 EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION



{ FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)) IDENTIFICATION:
{ 10 EQUAL TIME CONTOURS (MINUTES))
{ }

NOISE SOURCE/SUBJECT: OPERATION:
F-101B AIRCRAFT { IDLE
J57-P-55 ENGINE { 62% RPM
FAR FIELD NOISE { SINGLE ENGINE
{ FREE FLOW

0< |
10< |
20< |
30< |
40< |
A 50< |
N 60< |
G 60< |
L 70< |
E 70< |
I 80< |
N 90< |
D 100< |
E 100< |
G 110< |
R 110< |
E 120< |
S 130< |
140< |
150< |
160< |
170< |
180< |

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 H HG
REL HUMID = 70 %
PAGE 8

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)

UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

MINIMUM QPL EAR MUFFS
AMERICAN OPTICAL 1700 EAR MUFFS
V-51R EAR PLUGS
COMFIT TRIPLE FLANGE EAR PLUGS
H-133 GROUND COMMUNICATION UNIT

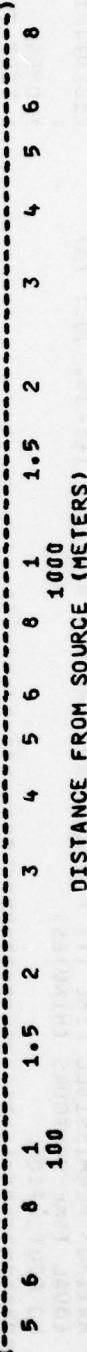


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
10
 NO PROTECTION
 EQUAL TIME CONTOURS (MINUTES)

NOISE SOURCE/SUBJECT:
 F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE
 NO PROTECTION

OPERATION:
 80% RPM
 SINGLE ENGINE
 FREE FLOW

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %
 PAGE 7

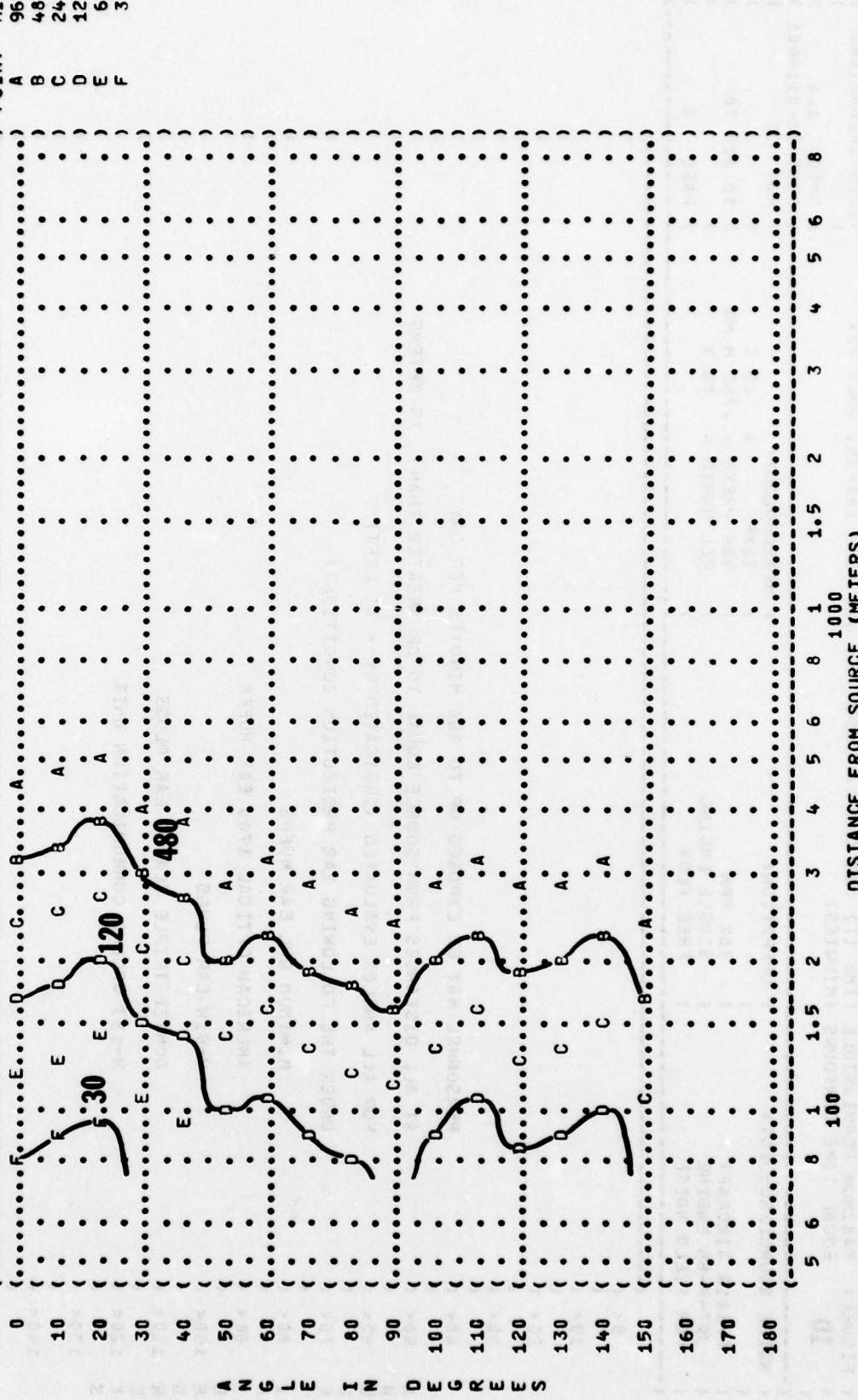


FIGURE: MAXIMUM PERMISSIBLE TIME {T} FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
 EQUAL TIME CONTOURS (MINUTES)
10

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
 JS7-P-55 ENGINE
 FAR FIELD NOISE

0<

10<

20<

30<

40<

A

N

G

L

E

I

N

D

O

G

R

E

S

130<

140<

150<

160<

170

180

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY

AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS

FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)

UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

MINIMUM QPL EAR MUFFS

AMERICAN OPTICAL 1700 EAR MUFFS

V-51R EAR PLUGS

COMFIT TRIPLE FLANGE EAR PLUGS

H-133 GROUND COMMUNICATION UNIT

5 6 8 1 1.5 2 3 4 5 6 8 1 1.5 2 3 4 5 6 8
 100 1000

DISTANCE FROM SOURCE (METERS)

IDENTIFICATION:
 OMEGA 1-4
 TEST 78-011-001
 RUN 02

OPERATION:

80% RPM
 SINGLE ENGINE
 FREE FLOW

METEOROLOGY:

TEMP = 15 C
 BAR PRESS = .760 H HG
 REL HUMID = 70 %

PAGE 8

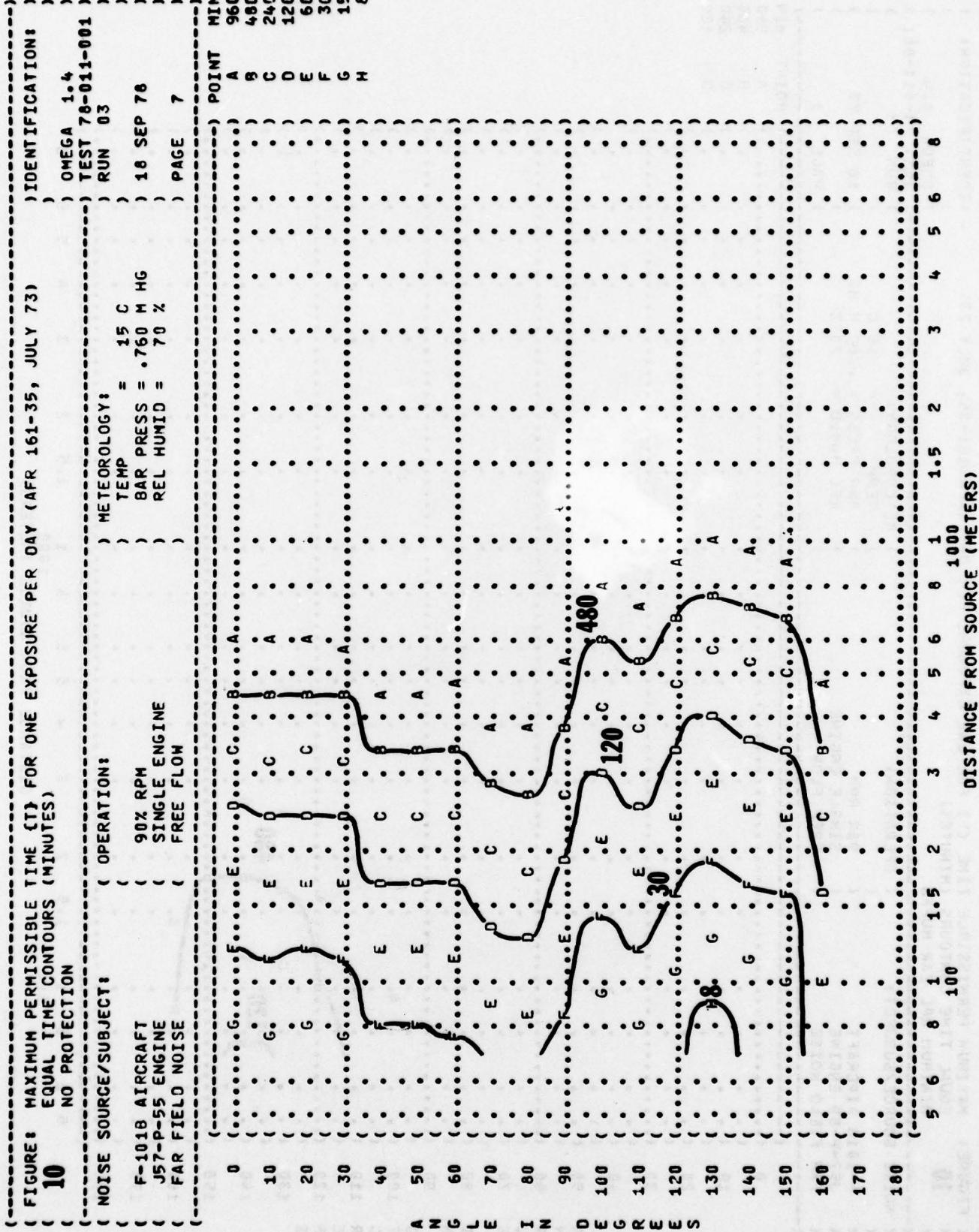
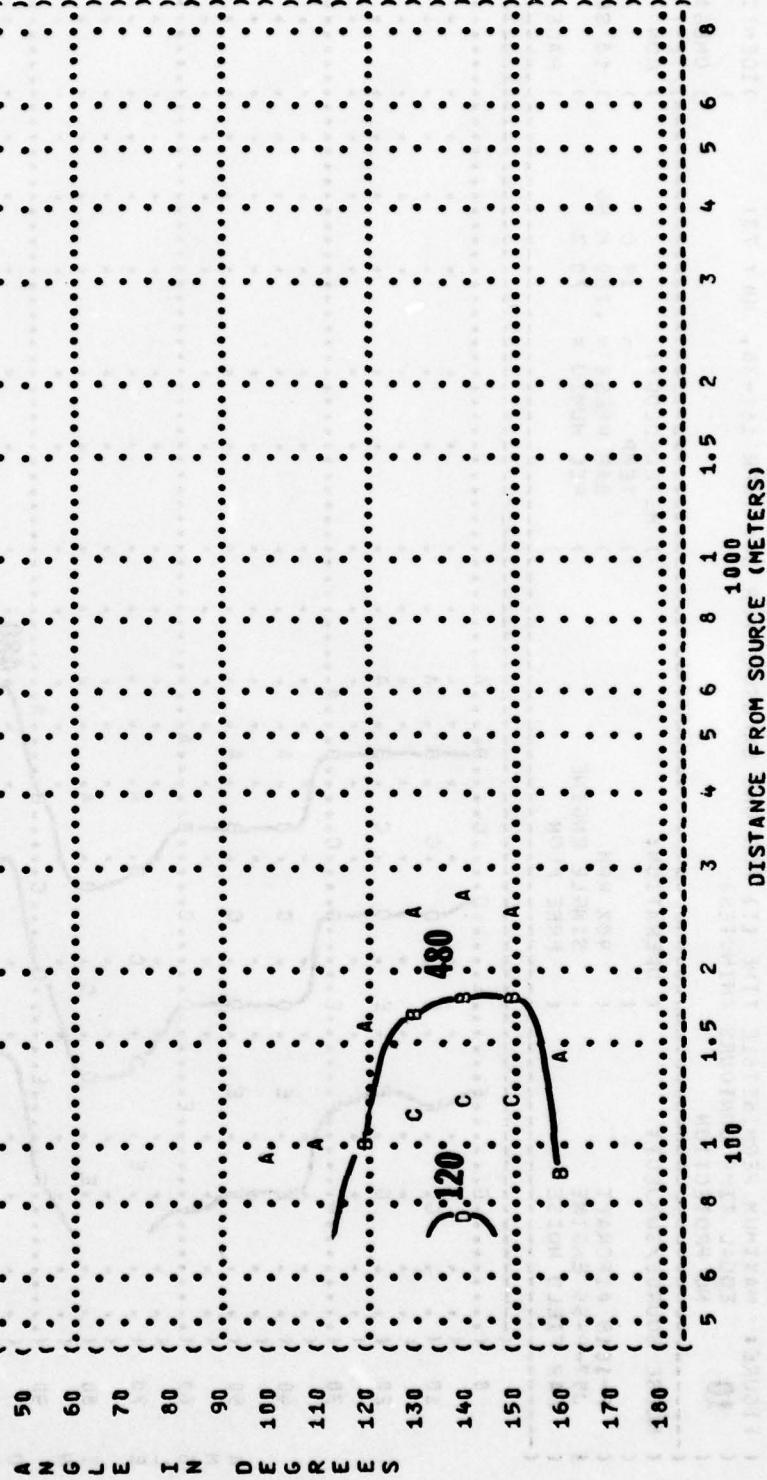
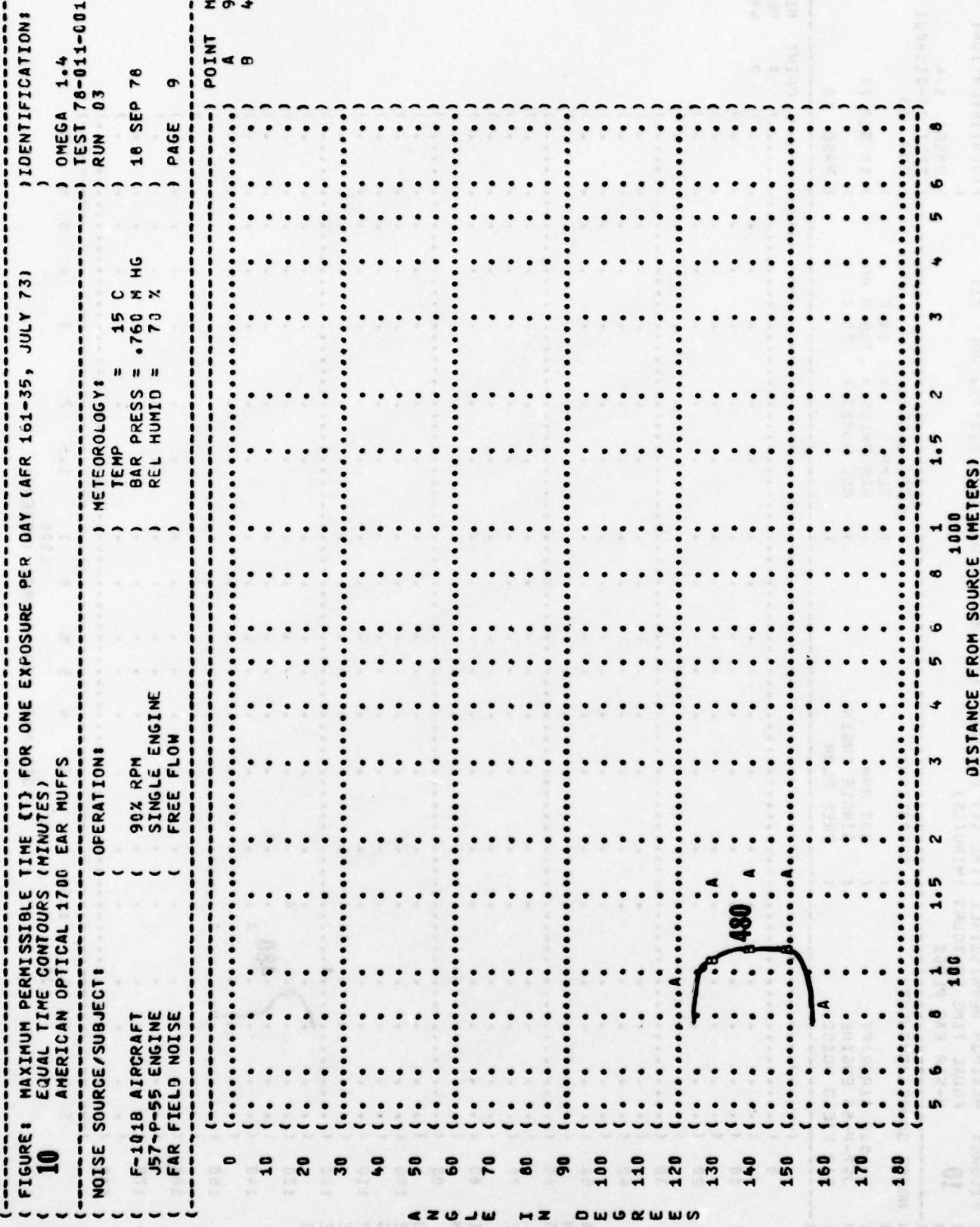


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
 10 EQUAL TIME CONTOURS (MINUTES)
 MINIMUM QPL EAR MUFFS
 NOISE SOURCE/SUBJECT: F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATION: 90% RPM
 SINGLE ENGINE
 FREE FLOW
 METEOROLOGY: TEMP = 15 C
 BAR PRESS = .760 HG
 REL HUMID = 70 %
 PAGE 8

POINT MIN
 A 960
 B 480
 C 240
 D 120



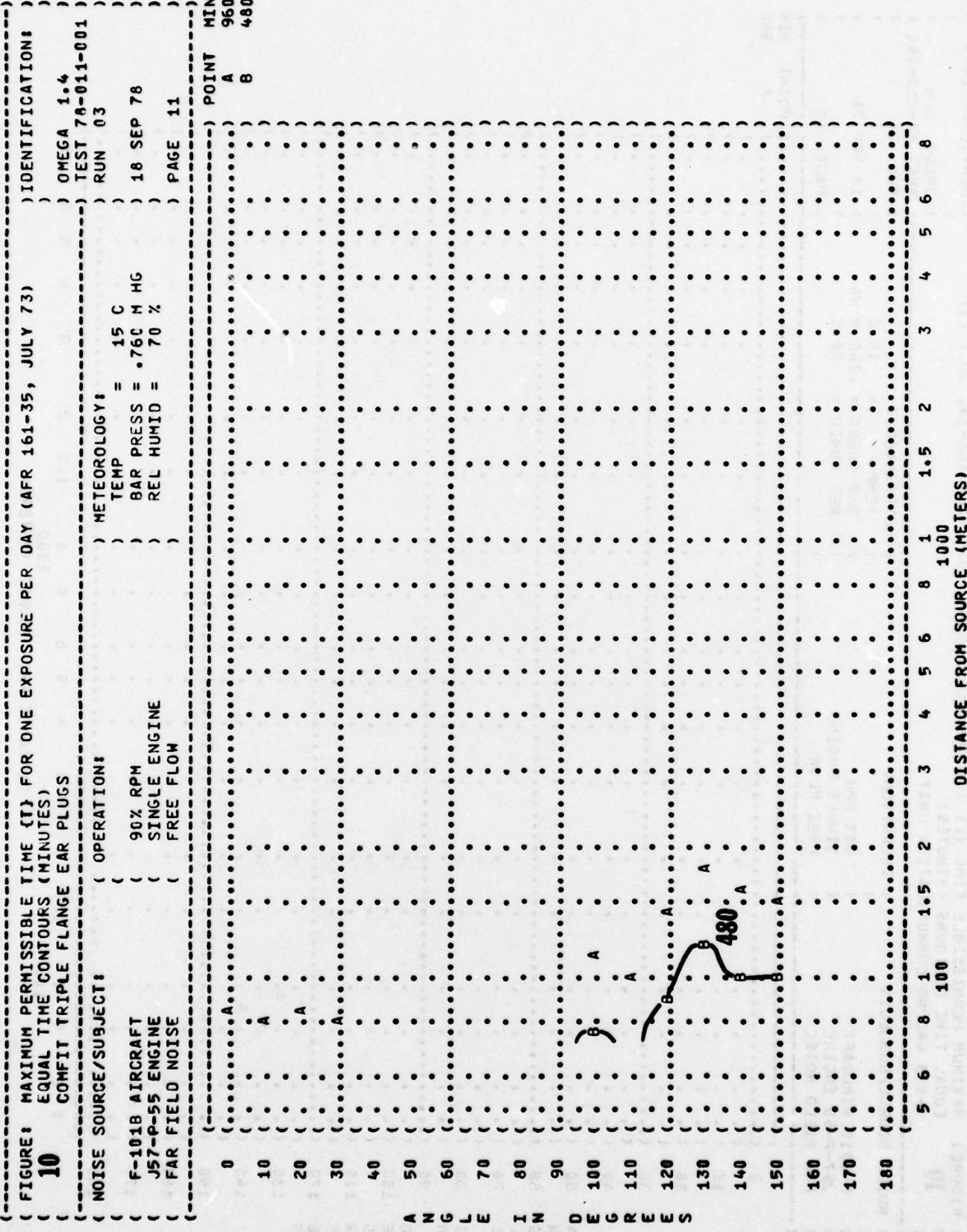


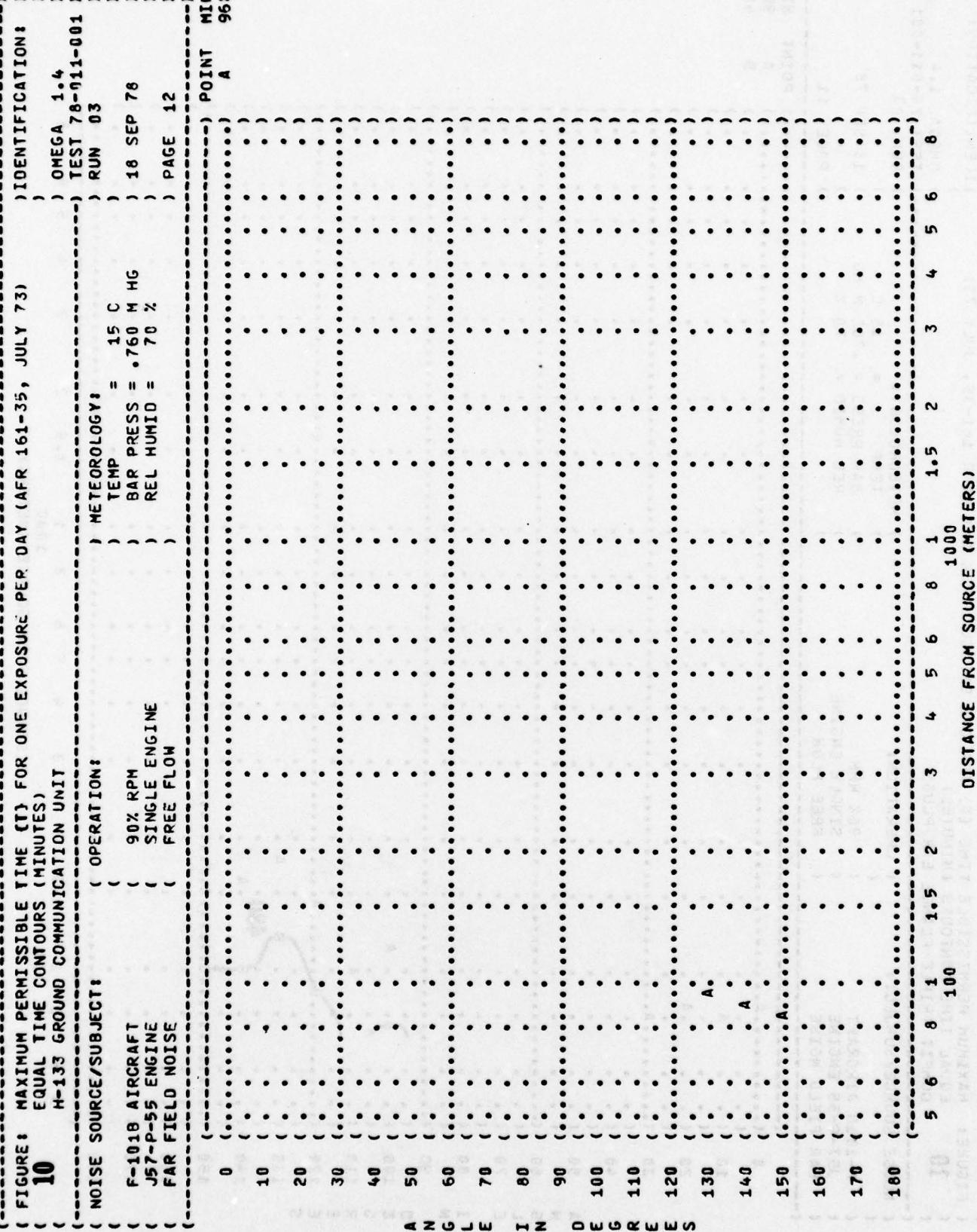
(FIGURE : MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)) IDENTIFICATION:
 (EQUAL TIME CONTOURS (MINUTES))
 (10)
 (V-51R EAR PLUGS)

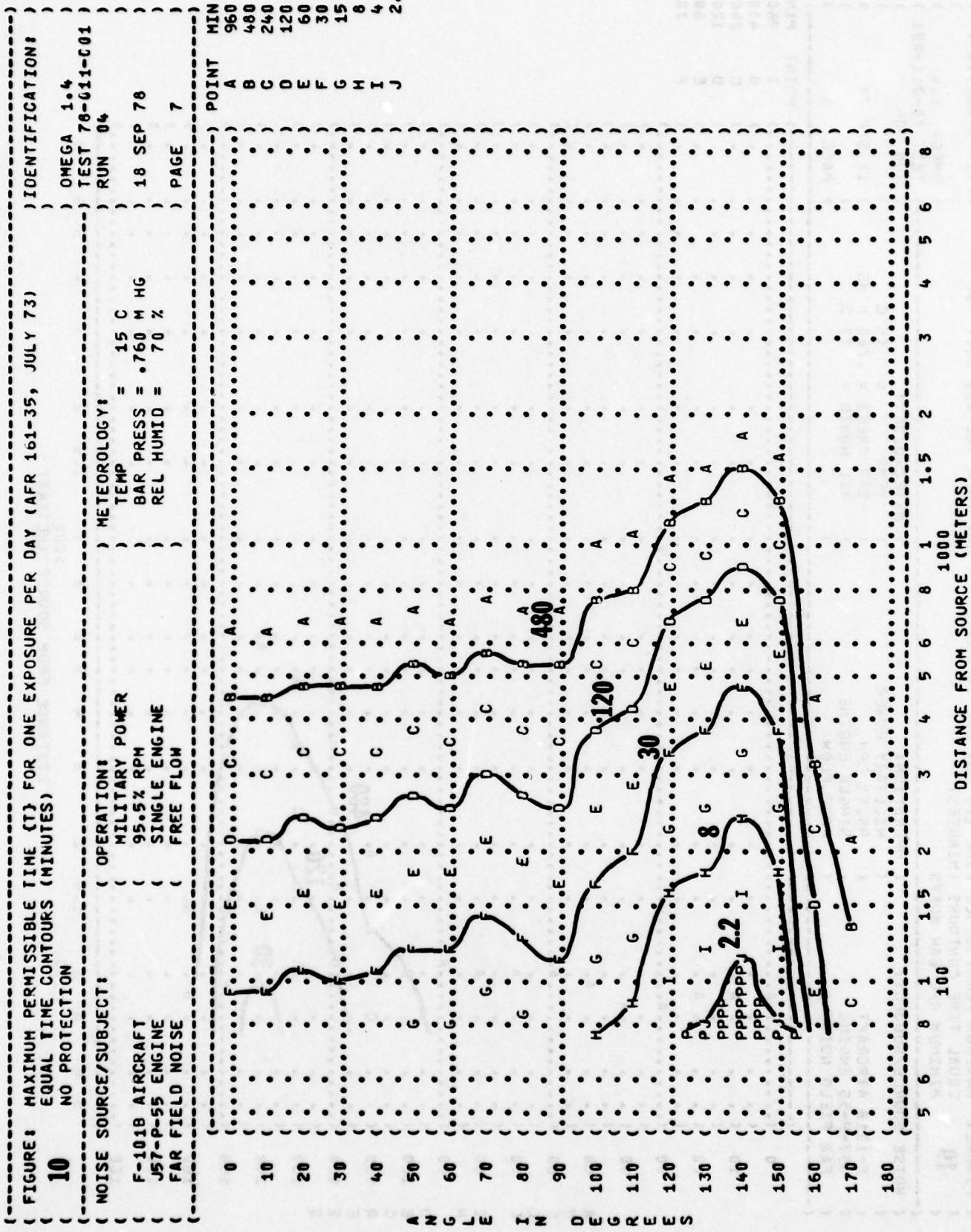
 (NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:
 (F-101B AIRCRAFT (90% RPM) TEMP = 15 C
 (J57-P-55 ENGINE (SINGLE ENGINE) BAR PRESS = .760 HG
 (FAR FIELD NOISE (FREE FLOW) REL HUMID = 70 %

 () PAGE 10) POINT MIN
 () A 960
 () B 440

A graph showing a single trace of seismic waves on a grid. The vertical axis is labeled "DISTANCE FROM SOURCE (METERS)" with values from 0 to 180. The horizontal axis is labeled "TIME (SECONDS)" with values from 0 to 6. The trace starts at approximately (10, 0), rises to a peak at (130, 4.8), dips slightly, and then continues as a dashed line to (150, 1.5).







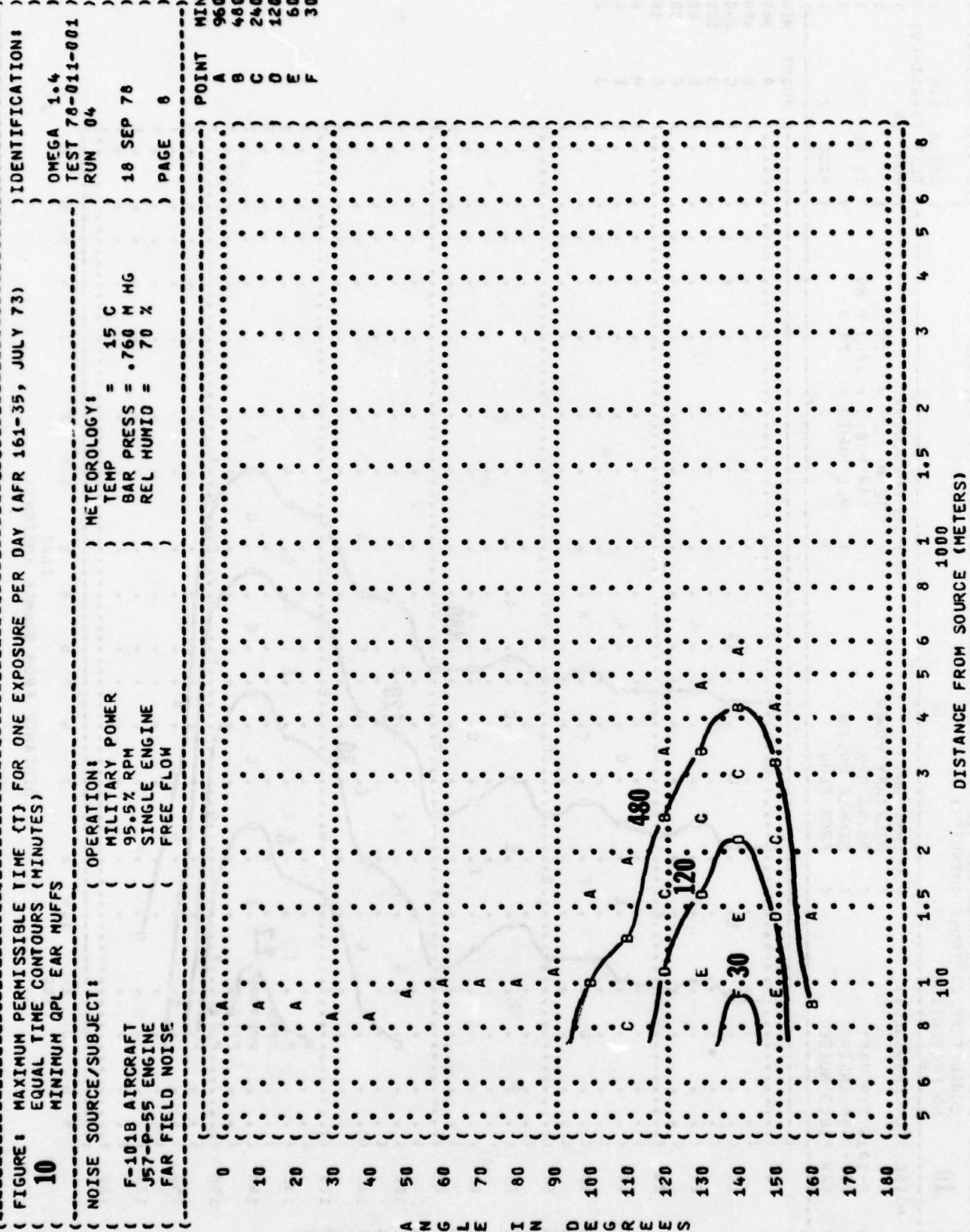


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
10
 EQUAL TIME CONTOURS (MINUTES)
 AMERICAN OPTICAL 1700 EAR MUFFS

NOISE SOURCE/SUBJECT: (OPERATION:
 F-101B AIRCRAFT (MILITARY POWER) TEMPERATURE = 15 C
 J57-P-55 ENGINE (SINGLE ENGINE BAR PRESS = +760 MM HG) 18 SEP 78
 FAR FIELD NOISE (FREE FLOW) REL HUMID = 70 %
) METEOROLOGY:
) POINT MIN

0	A	960
10	B	480
20	C	240
30	D	120
40	E	60

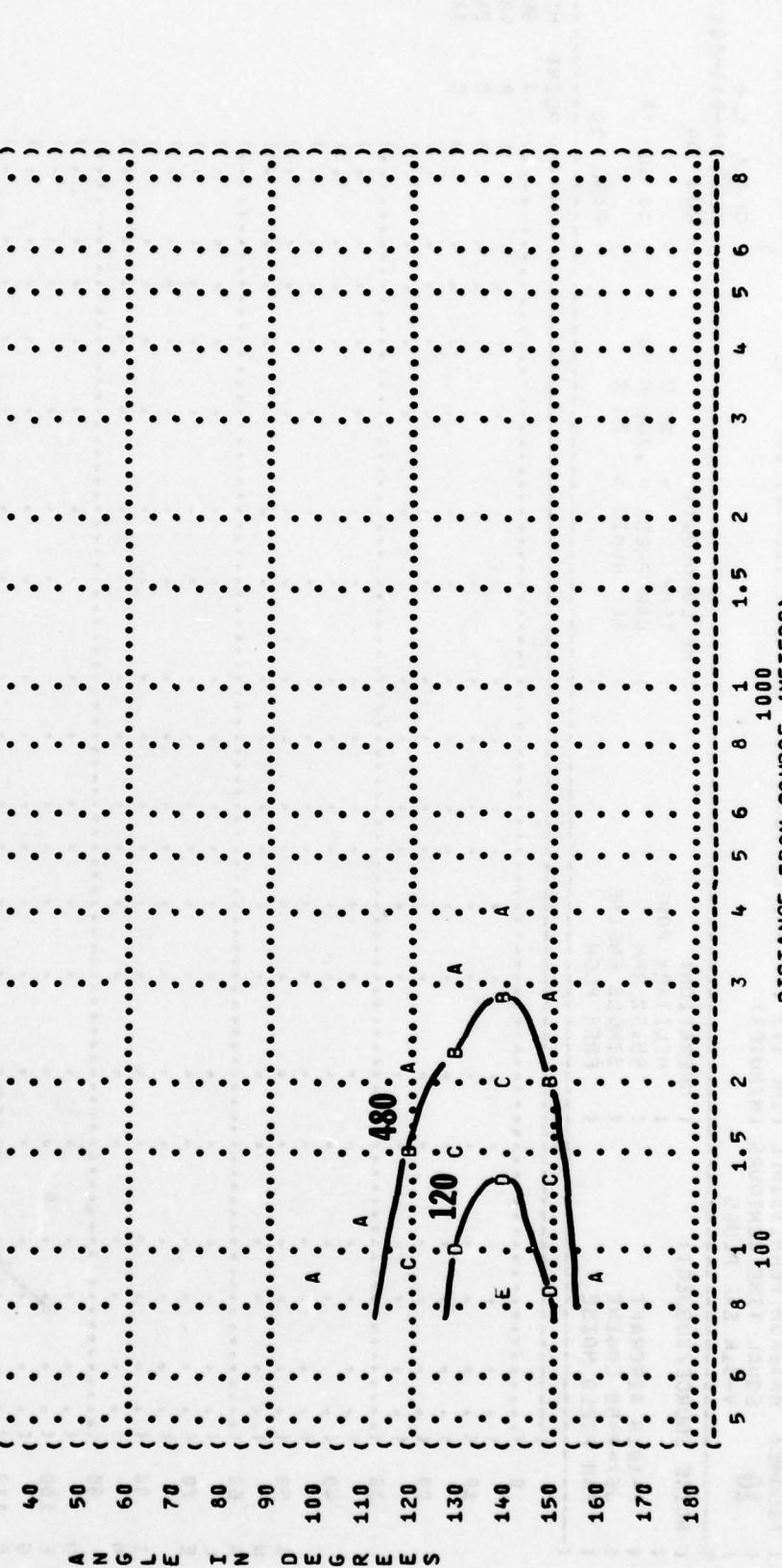


FIGURE : MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
 EQUAL TIME CONTOURS (MINUTES)
10
 V-51R EAR PLUGS

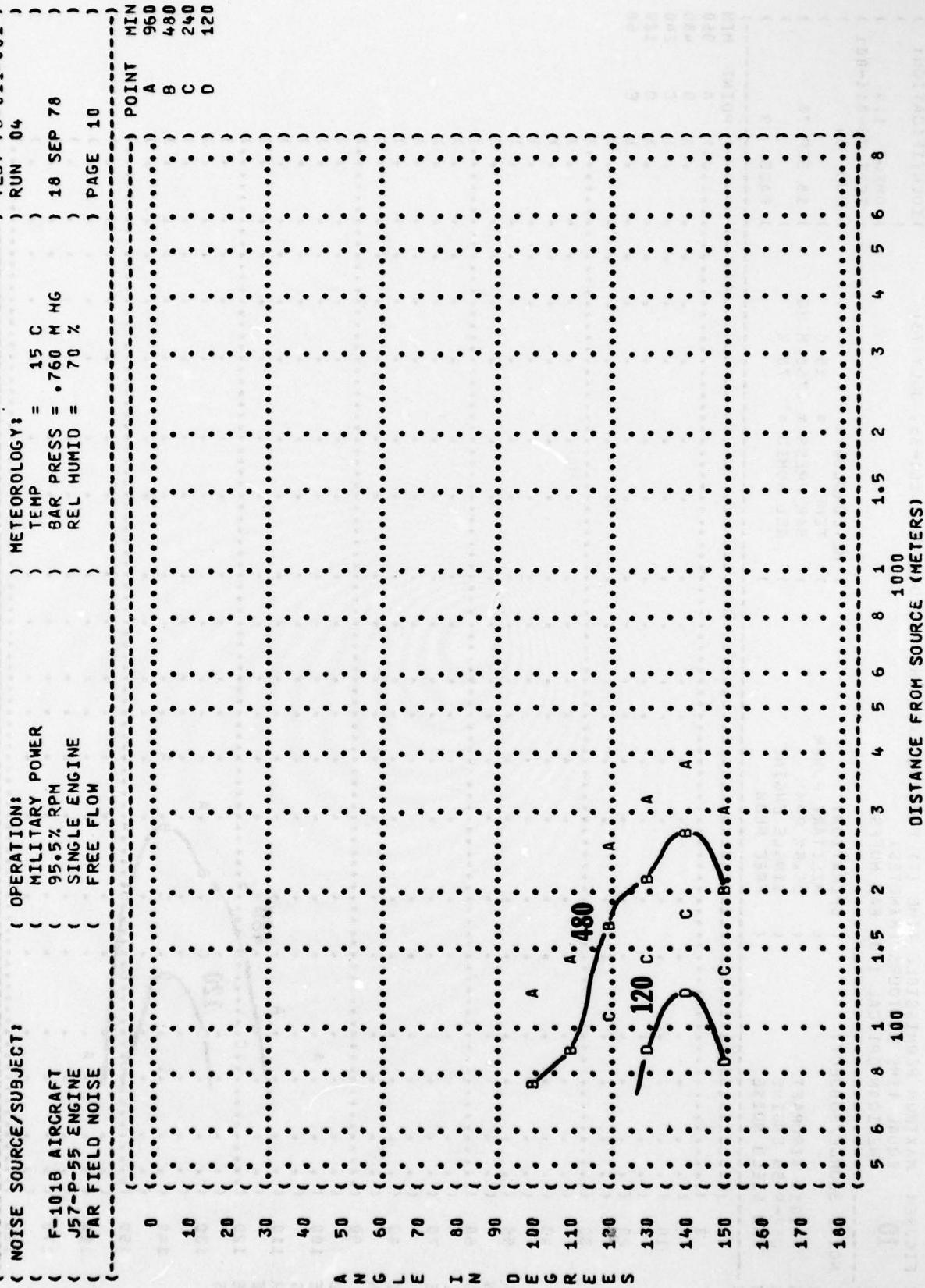


FIGURE 1 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
10 EQUAL TIME CONTOURS (MINUTES)
 CONFIT TRIPLE FLANGE EAR PLUGS

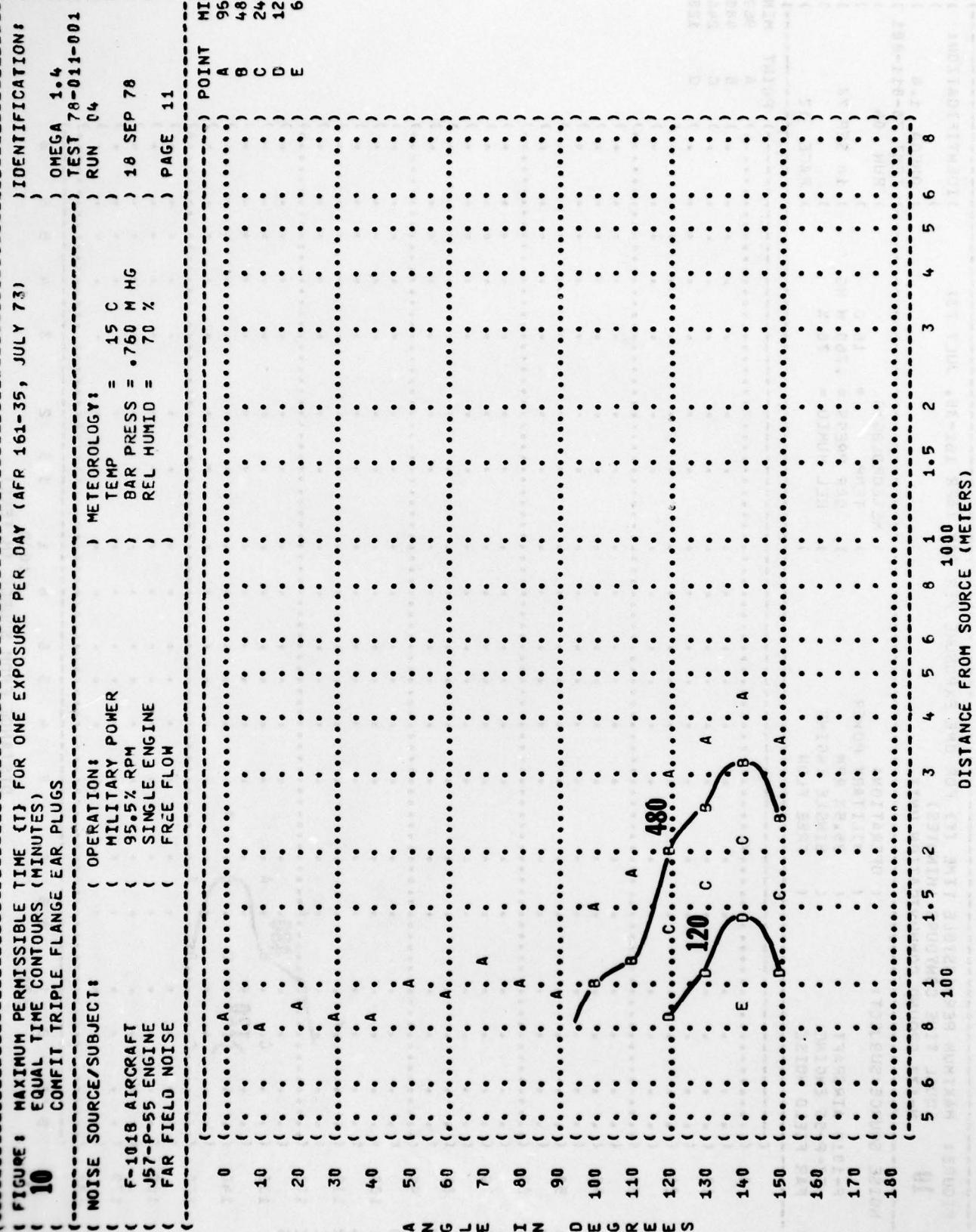


FIGURE: MAXIMUM PERMISSIBLE TIME (MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

EQUAL TIME CONTOURS (MINUTES)

10

H-133 GROUND COMMUNICATION UNIT

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:

MILITARY POWER
95.5% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 HG
REL HUMID = 70 %

TEST:

78-011-001
RUN 04

PAGE:

12

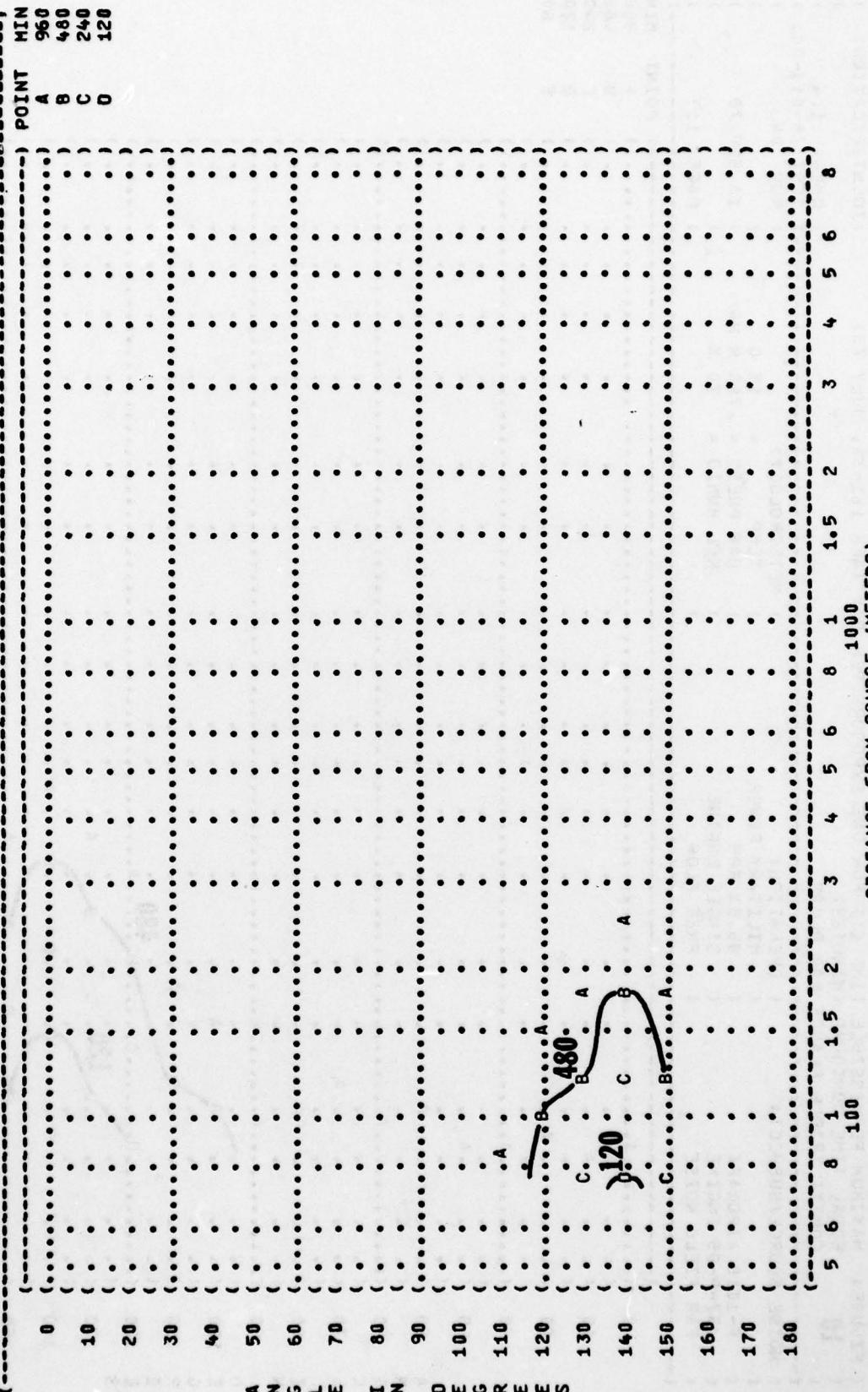


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
10
 EQUAL TIME CONTOURS (MINUTES)
 NO PROTECTION

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATION:
 AFTERBURNER POWER
 96% RPM
 SINGLE ENGINE
 FREE FLOW

METEOROLOGY:

TEMP = 15 C
 BAR PRESS = .760 HG
 REL HUMID = 70 %

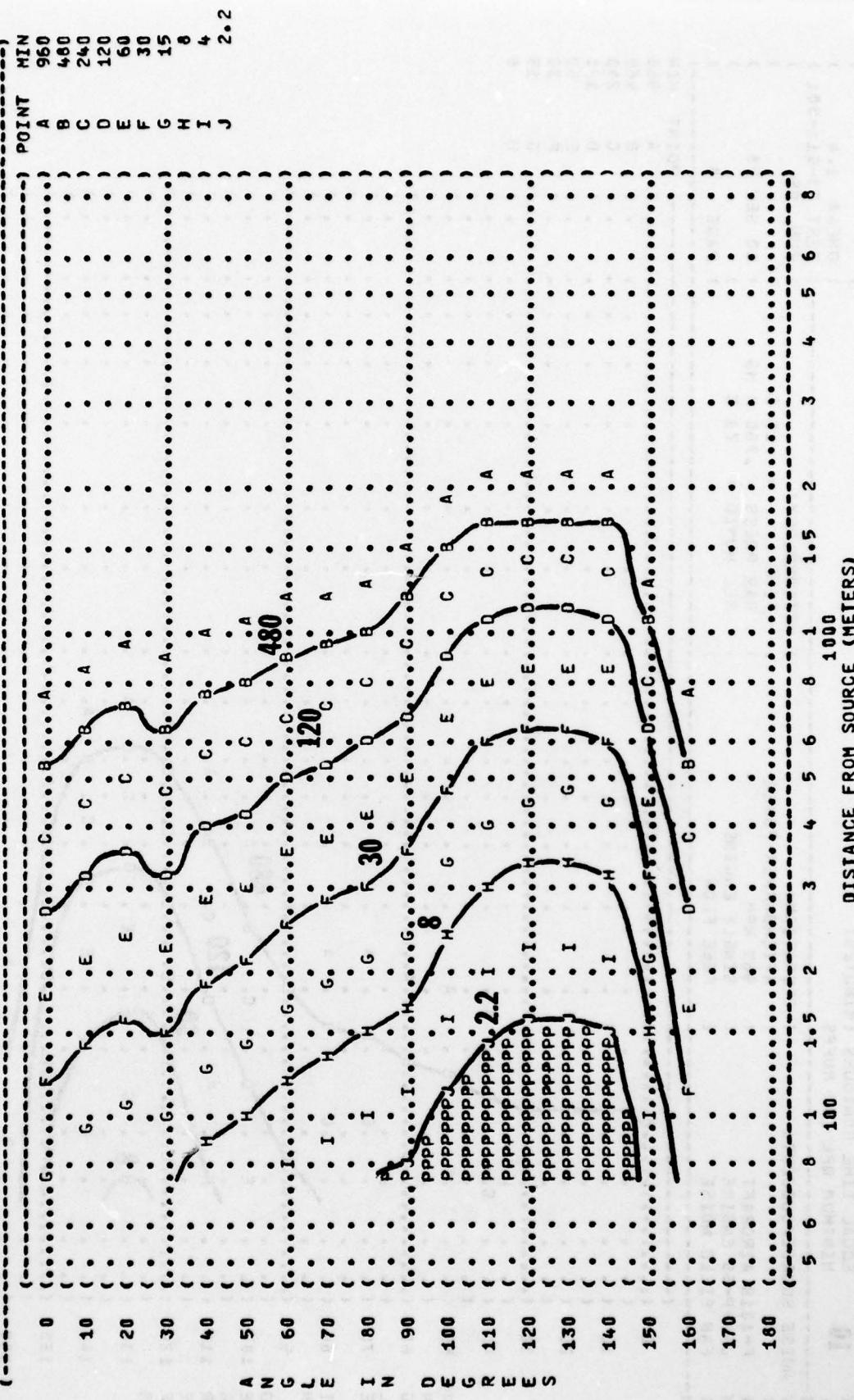
IDENTIFICATION:

OMEGA 1.4

RUN 05

TEST 78-011-001

PAGE 7



P ADDITIONAL EAR PROTECTION REQUIRED.

(FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
10 EQUAL TIME CONTOURS (MINUTES)
 MINIMUM QPL EAR MUFFS

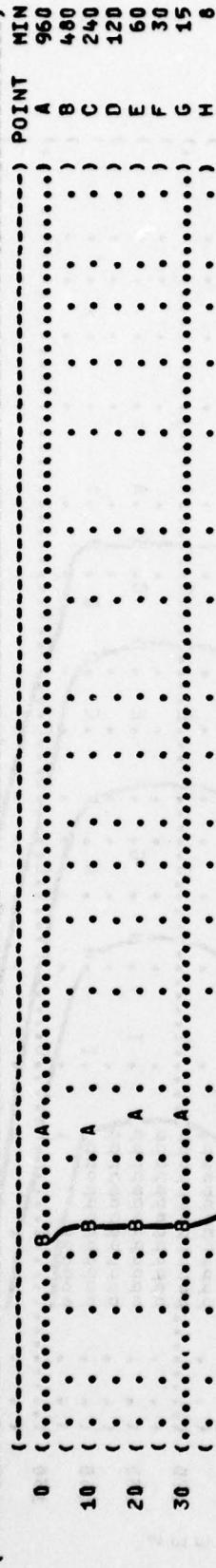
NOISE SOURCE/SUBJECT:

(OPERATION:
 (AFTERBURNER POWER
 (962 RPM
 (SINGLE ENGINE
 (FREE FLOW

METEOROLOGY:
) TEMP = 15 C
) BAR PRESS = .760 HG
) REL HUMID = 70 %

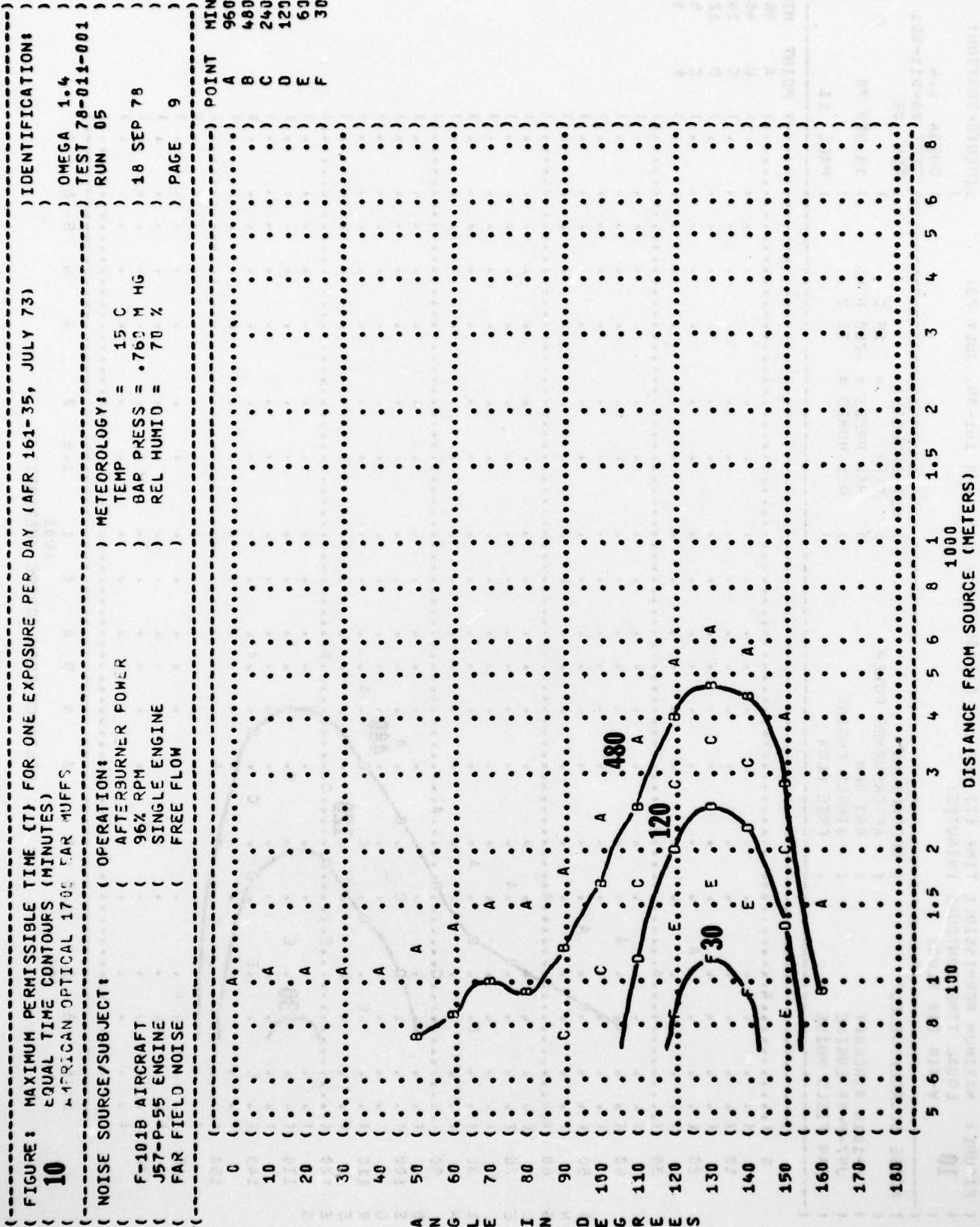
TEST 78-0111-001
 RUN 05

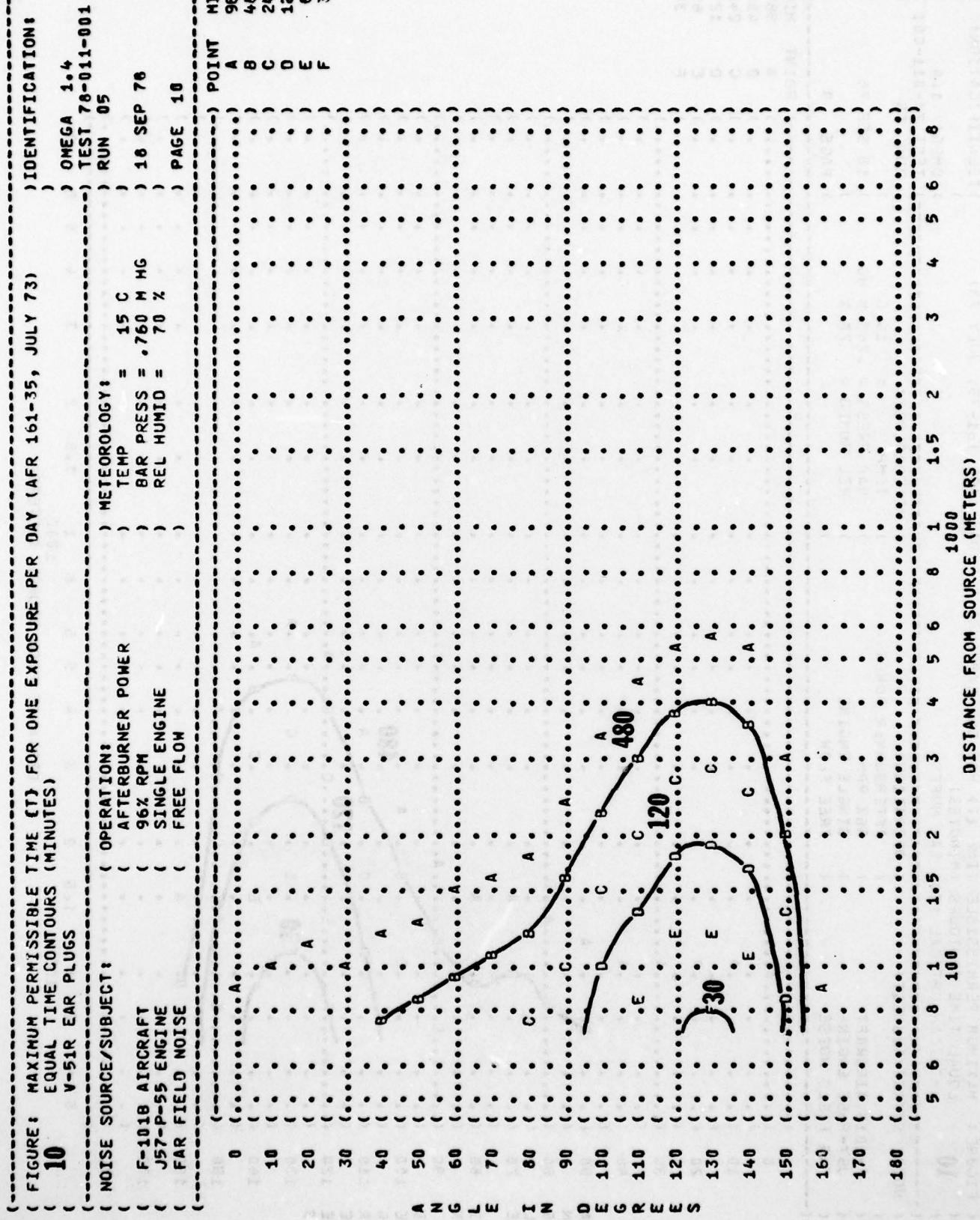
PAGE 6



DISTANCE FROM SOURCE (METERS)

1000





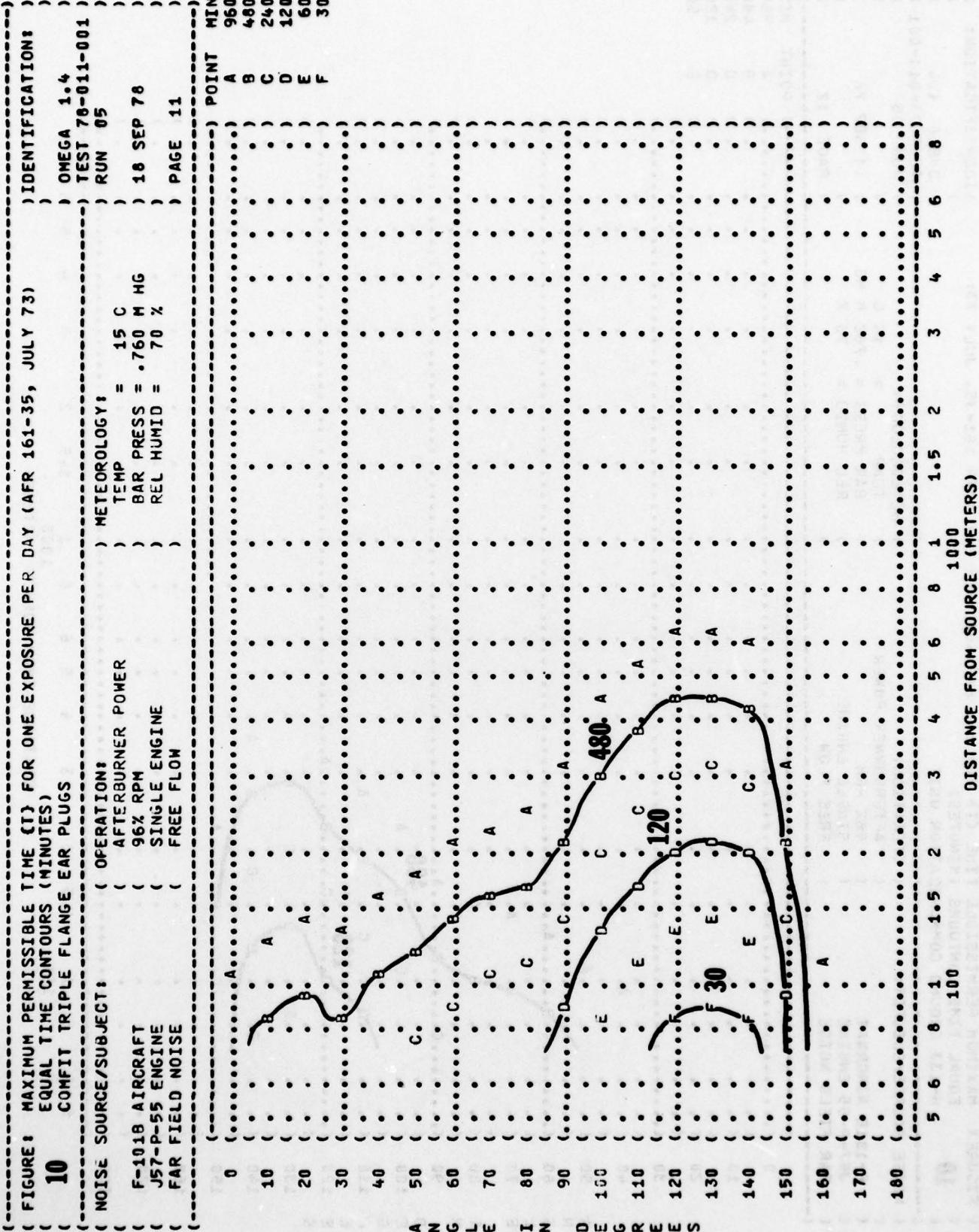


FIGURE 1 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) IDENTIFICATION:
10 EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

NOISE SOURCE/SUBJECT:	OPERATION:	METEOROLOGY:	TEST 78-011-C01
F-101B AIRCRAFT	AFTERSURNER POWER	TEMP = 15 C	RUN 05
J57-P-55 ENGINE	96% RPM	BAR PRESS = .760 H HG	16 SEP 78
FAR FIELD NOISE	SINGLE ENGINE	REL HUMID = 70 %	PAGE 12
	FREE FLOW		(-----) POINT MIN

960
480
240
120
60

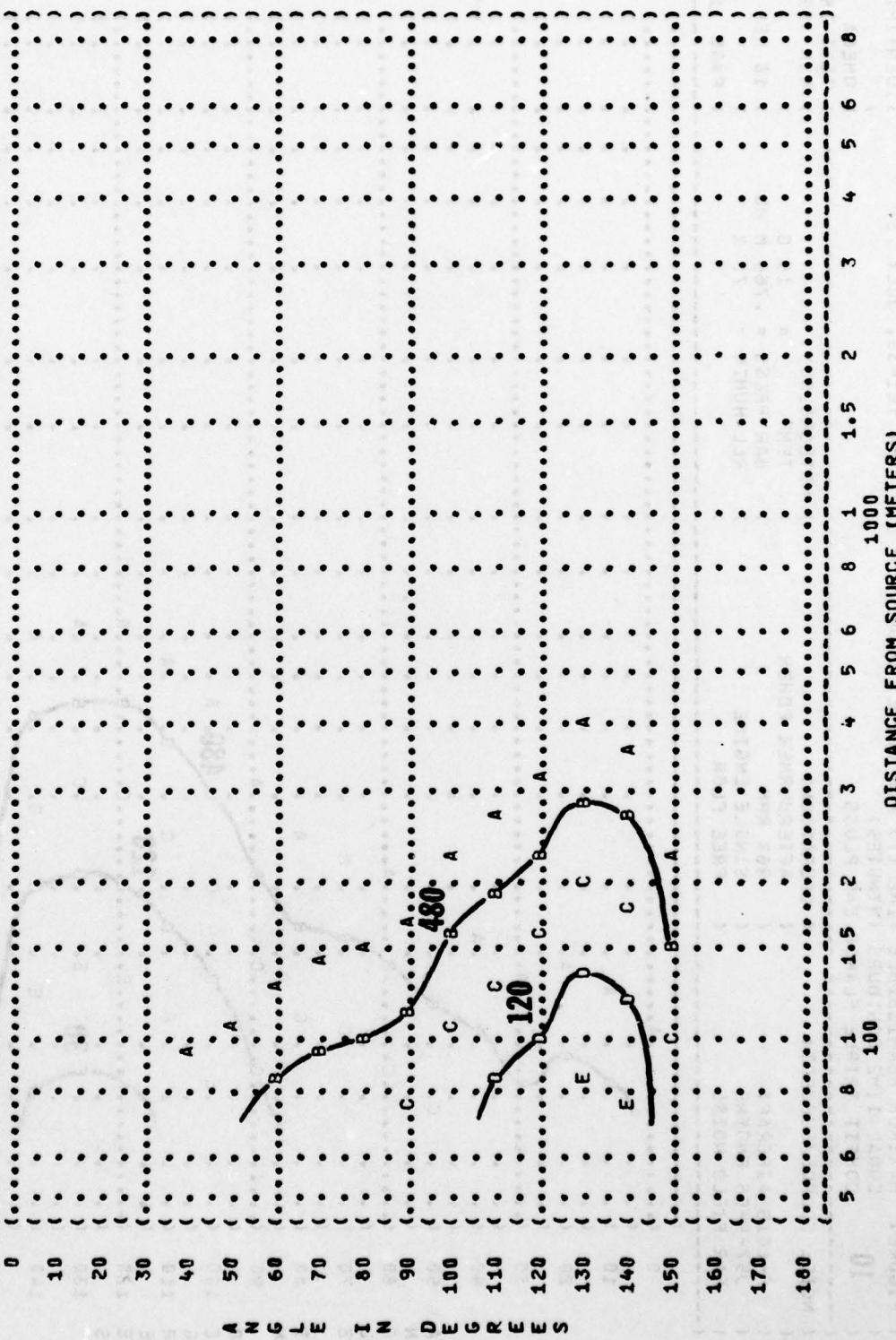


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS
31.5 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT: F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
62% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
TEST 78-011-001
RUN 01
PAGE 18

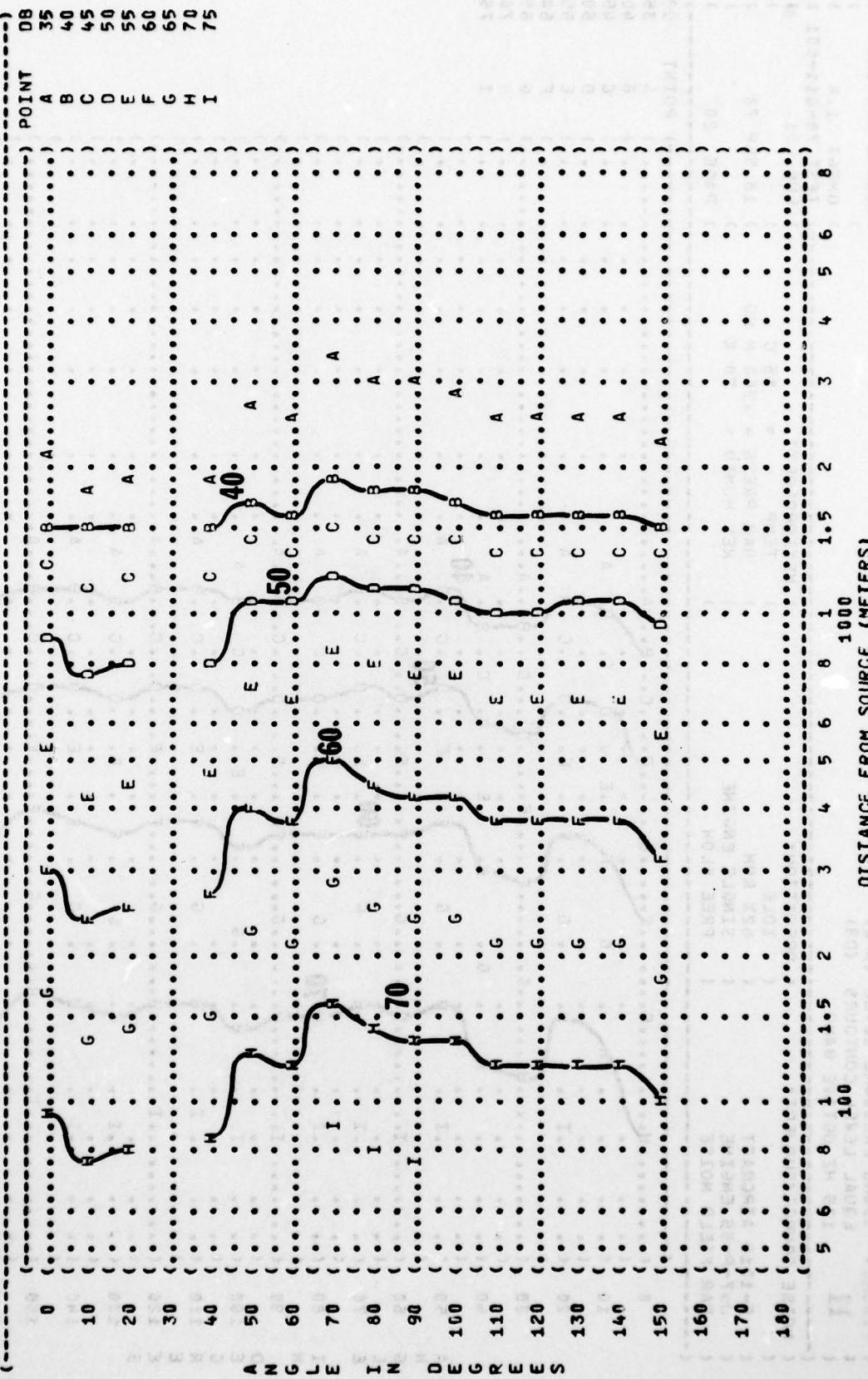


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (dB) 250 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT	OPERATION	IDEAL
F-101B AIRCRAFT	62% RPM	
J57-P-55 ENGINE	SINGLE ENGINE	
FAR FIELD NOISE	FREE FLOW	

IDENTIFICATION:

OMEGA 1⁴
TEST 78-011-C01
RUN 01
18 SEP 78

FAR FIELD NOISE **FREE FLOW**

POINT

DB

40 50 60 65 70 75

A B C D E F G H I

DISTANCE FROM SOURCE (METERS)

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180

40 50 60 70

A B C D E F G H I

L E I N S O E R G E

(FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
 500 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
 F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE
 OPERATION:
 IDLE
 62% RPM
 SINGLE ENGINE
 FREE FLOW

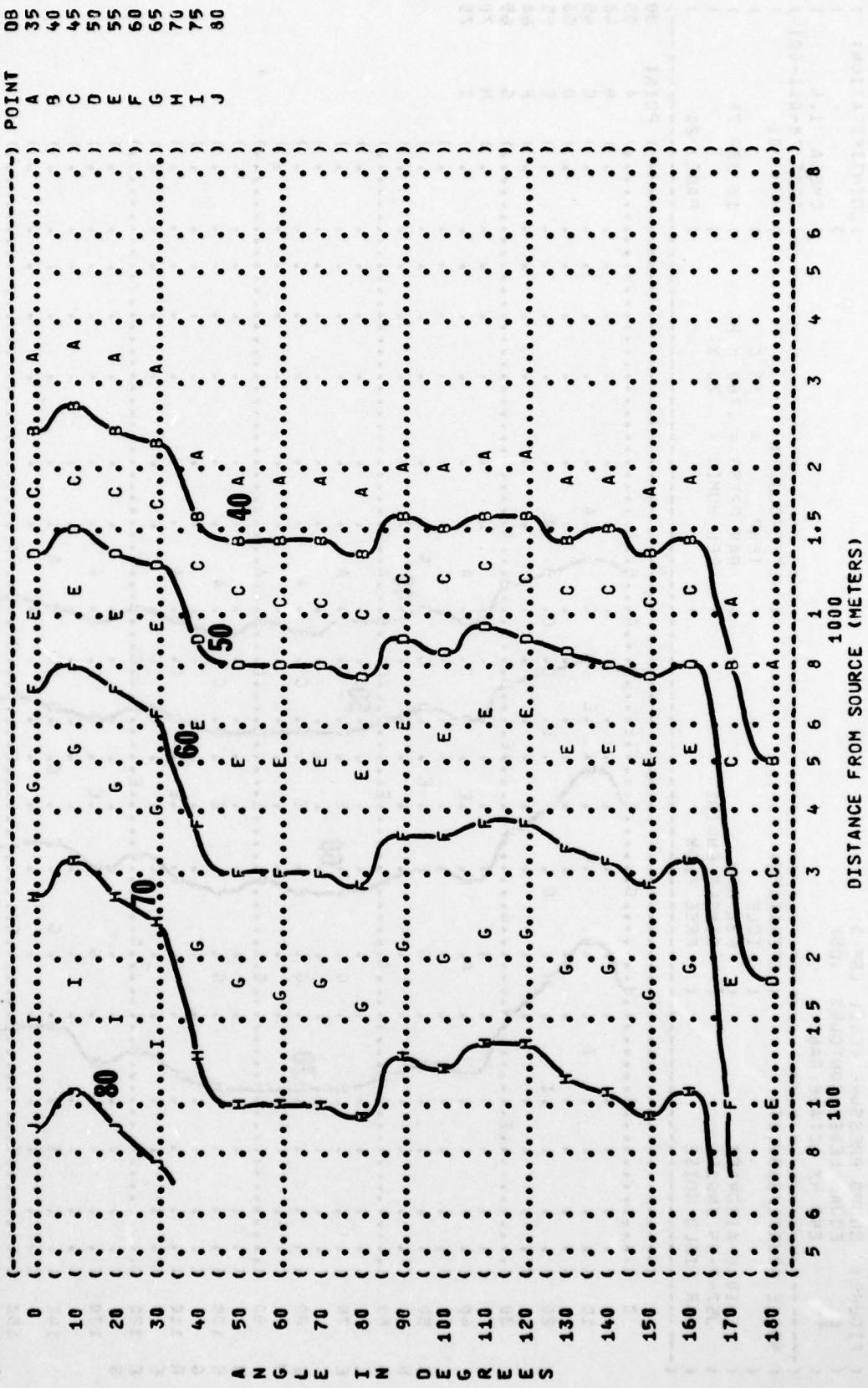


FIGURE: SOUND PRESSURE LEVEL (SPL)
11
 EQUAL LEVEL CONTOURS
 1000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT: OPERATION:
 F-101B AIRCRAFT IDLE
 J57-P-55 ENGINE 62% RPM
 FAR FIELD NOISE SINGLE ENGINE
 FREE FLOW

IDENTIFICATION:

OMEGA 1.4
 TEST 78-011-001
 RUN 01

METEOROLOGY:

TEMP = 15 C
 BAR PRESS = 760 MM HG
 REL HUMID = 70 %

PAGE 23

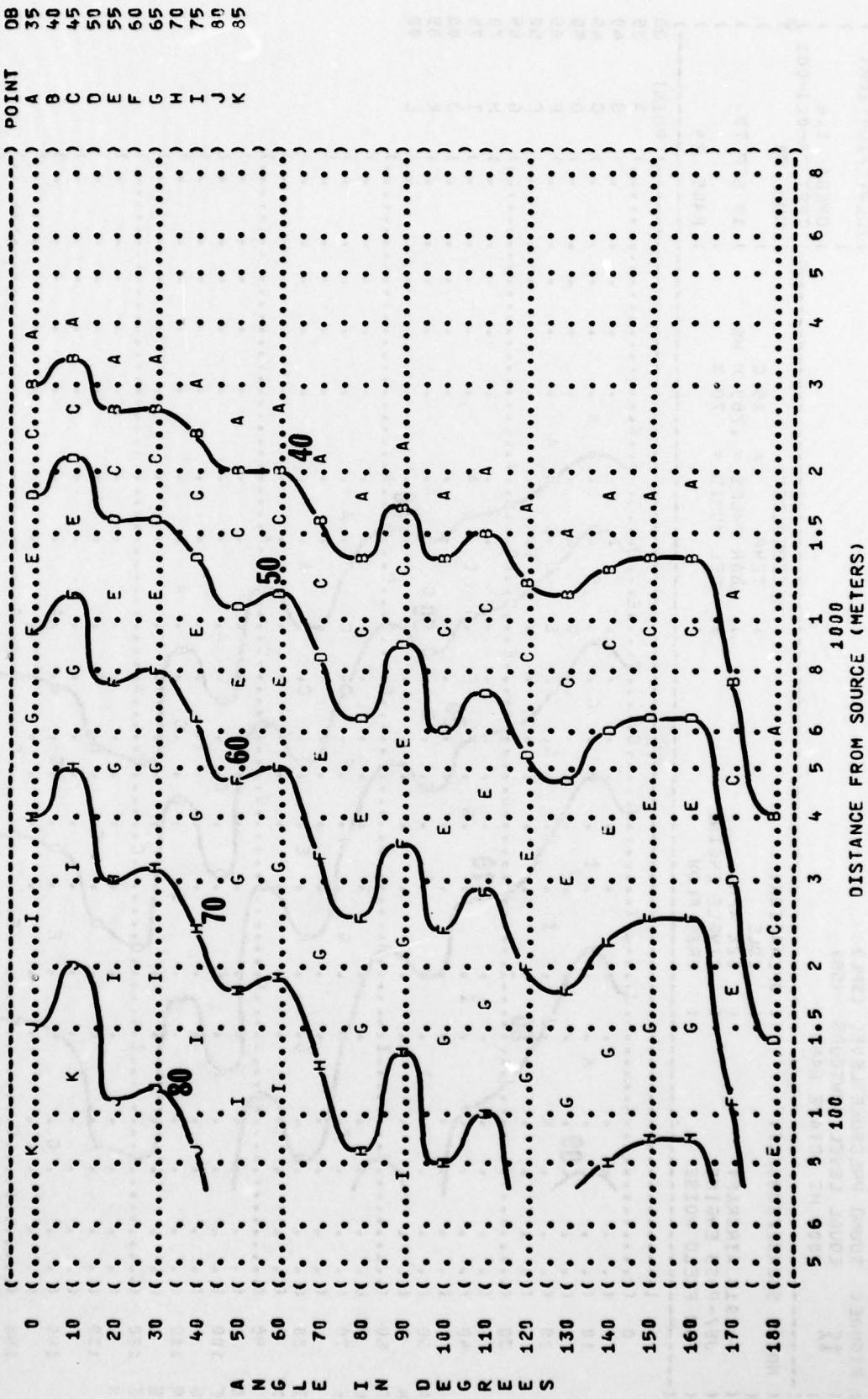


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
 2000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
 F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATIONS:
 IDLE
 62% RPM
 SINGLE ENGINE
 FREE FLOW

IDENTIFICATION:

OMEGA 1.4

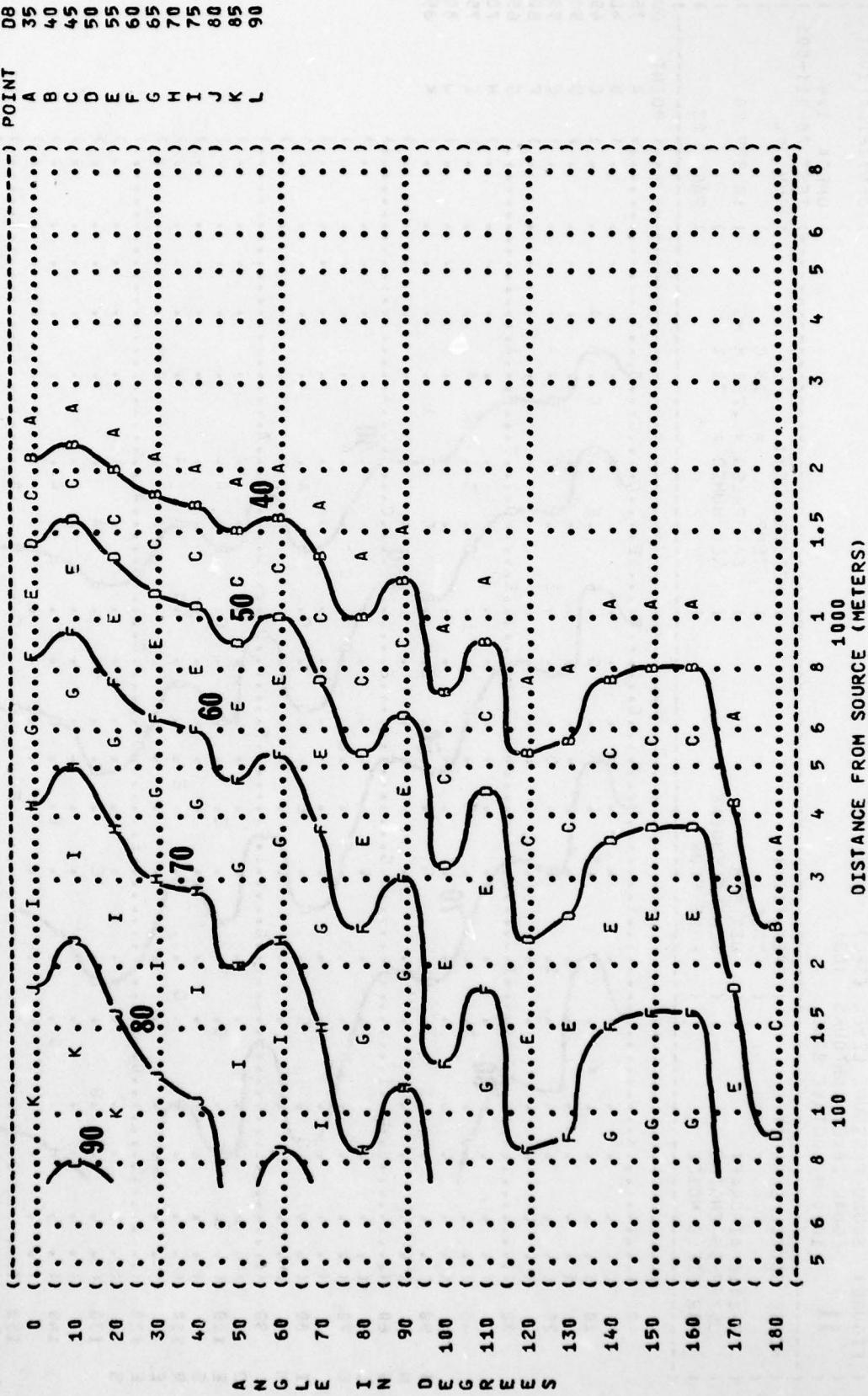
TEST 78-011-0C.

RUN 01

18 SEP 78

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %

PAGE 24



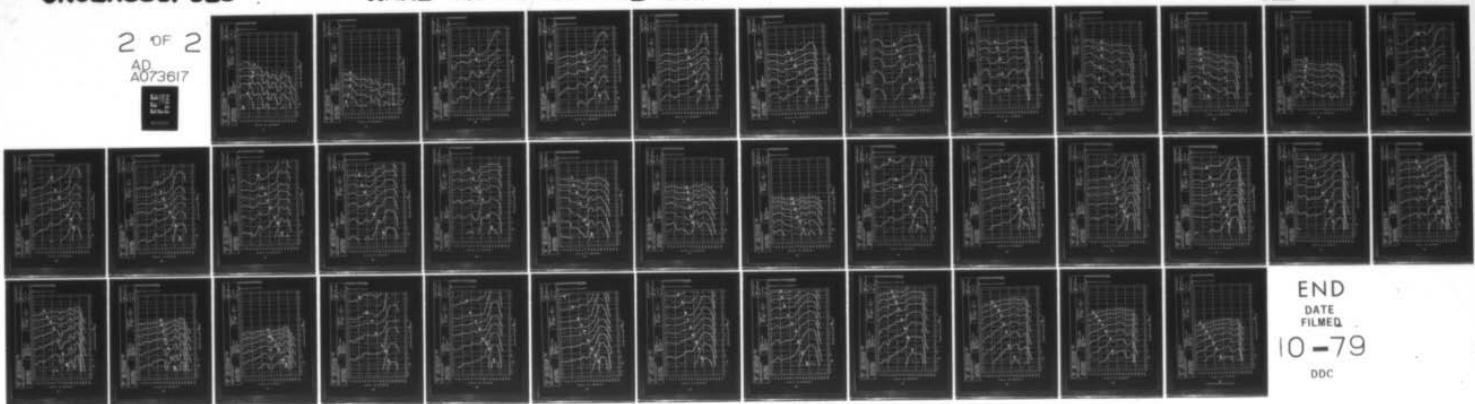
AD-A073 617 AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OH F/6 1/3
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 137. F-101B A--ETC(U)
OCT 78 R G POWELL

UNCLASSIFIED

AMRL-TR-75-50-VOL-137

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DATE
FILED
10-79
DDC

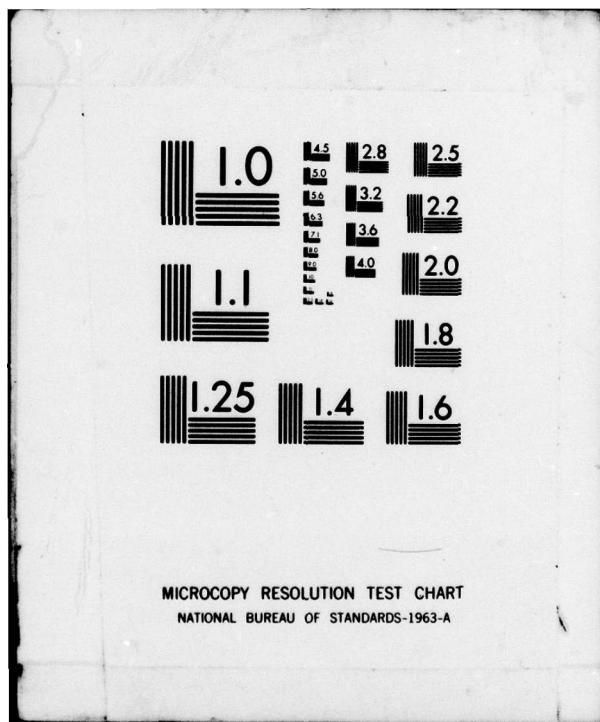


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
 4000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

OPERATION:
 IDLE
 62X RPM
 SINGLE ENGINE
 FREE FLOW
 FAR FIELD NOISE

IDENTIFICATION:
 OMEGA 1.4
 TEST 76-011-001
 RUN 01

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 Hg
 REL HUMID = 70 %
 PAGE 25

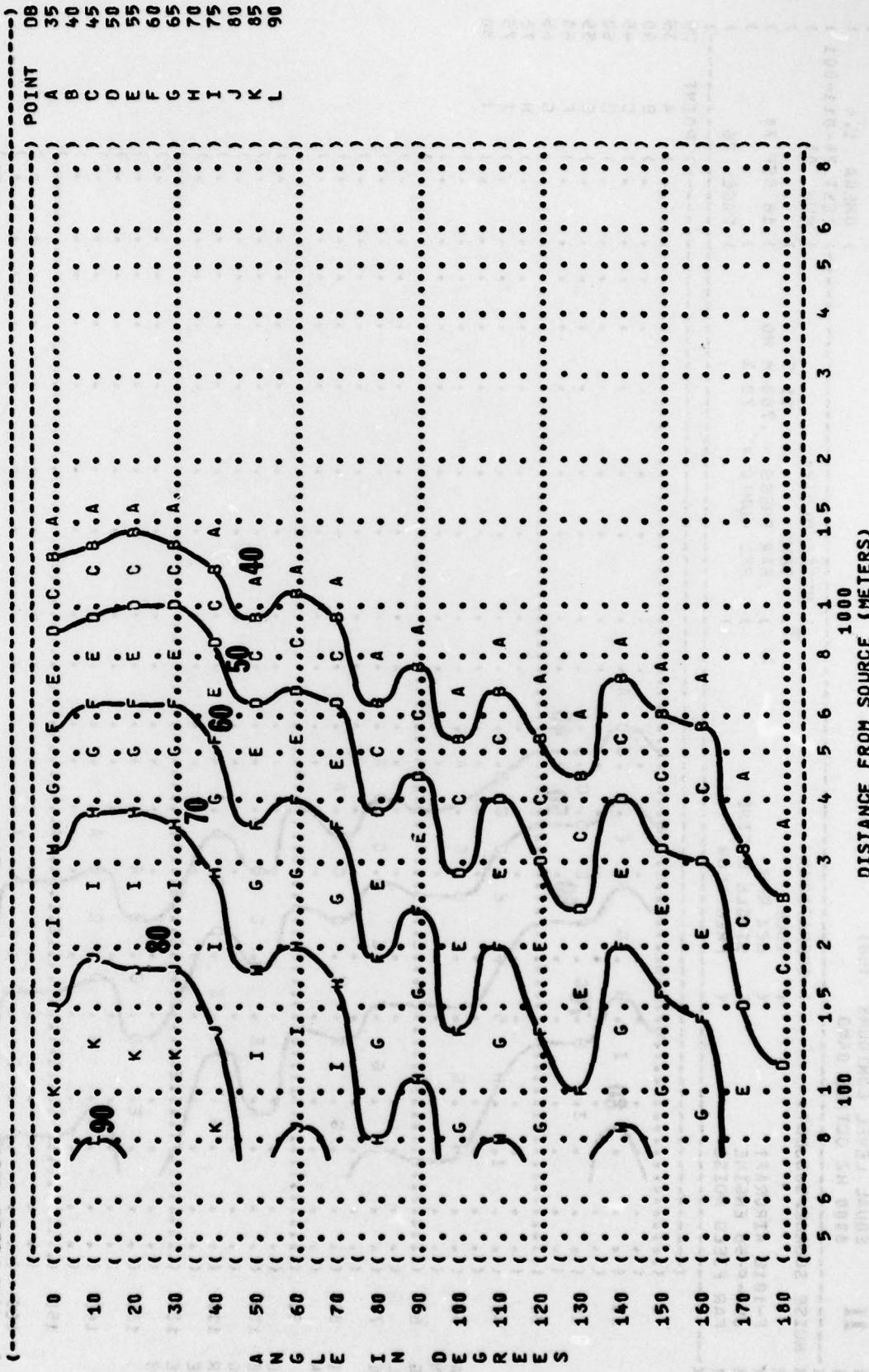


FIGURE: SOUND PRESSURE LEVEL (SPL)
11
EQUAL LEVEL CONTOURS (DB)
6000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:

IDLE
62% RPM
SINGLE ENGINE
FREE FLOW

GEOLINEAR LINE 019 20 MILE 3.608

TEST 78-011-001

IDENTIFICATION:
OMEGA 1-4
TEST 78-011-001
RUN 01

PAGE 26

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 MM HG

REL HUMID = 70 %

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 75

J 80

10 SEP 78

POINT DB

A 35

B 40

C 45

D 50

E 55

F 60

G 65

H 70

I 7

FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (dB)
 31.5 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
 F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATION:
 80% RPM
 SINGLE ENGINE
 FREE FLOW

IDENTIFICATION:
 OMEGA 1.4
 TEST 78-011-001
 RUN 02
 18 SEP 78
 PAGE 19

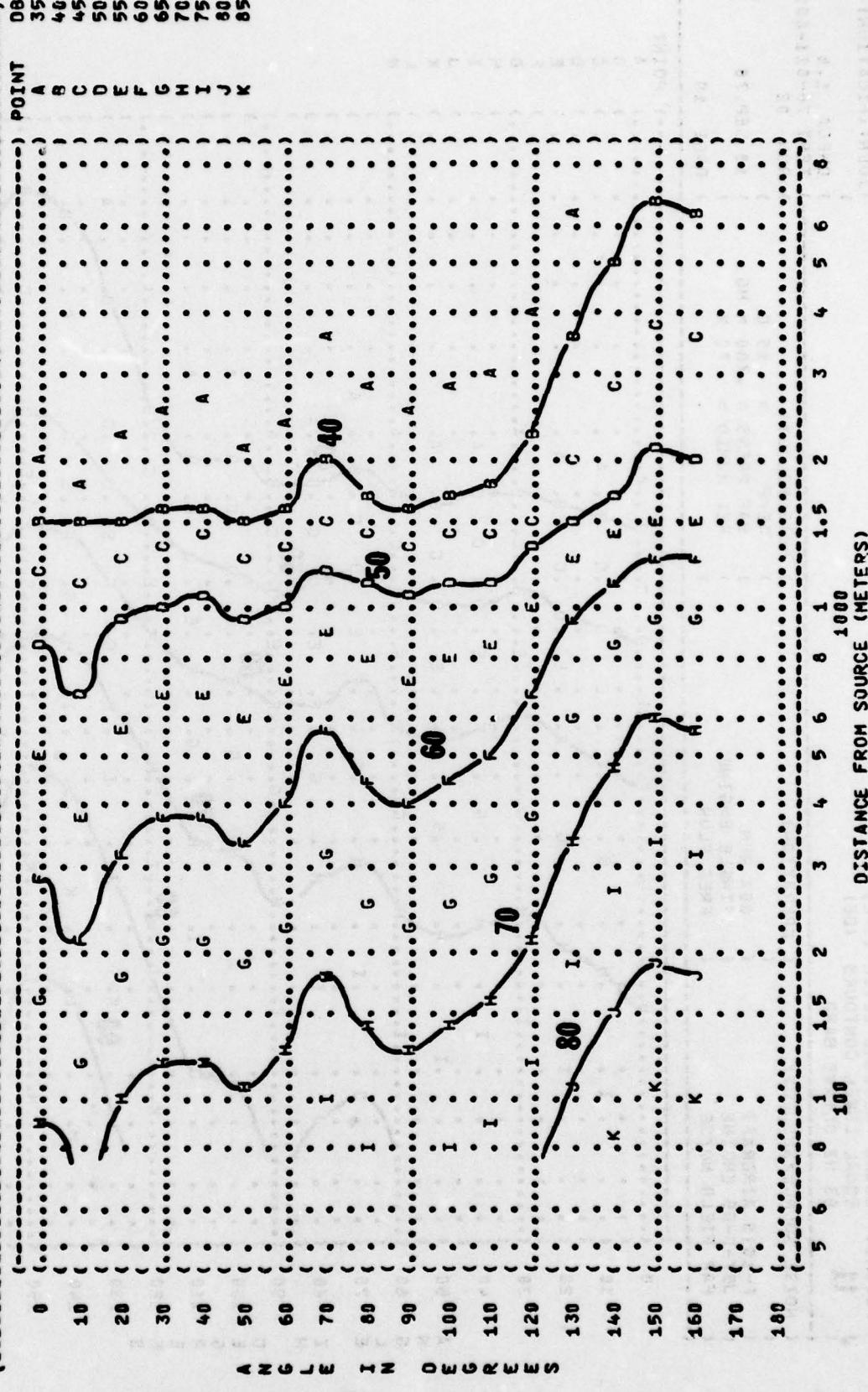


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
11
EQUAL LEVEL CONTOURS (DB)
63 Hz OCTAVE BAND

IDENTIFICATION:

OMEGA 1.4
TEST 78-011-001
RUN 02

18 SEP 78

PAGE 19

OPERATION:

80% RPM
SINGLE ENGINE
FREE FLOW

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
57-P-55 ENGINE
FAR FIELD NOISE

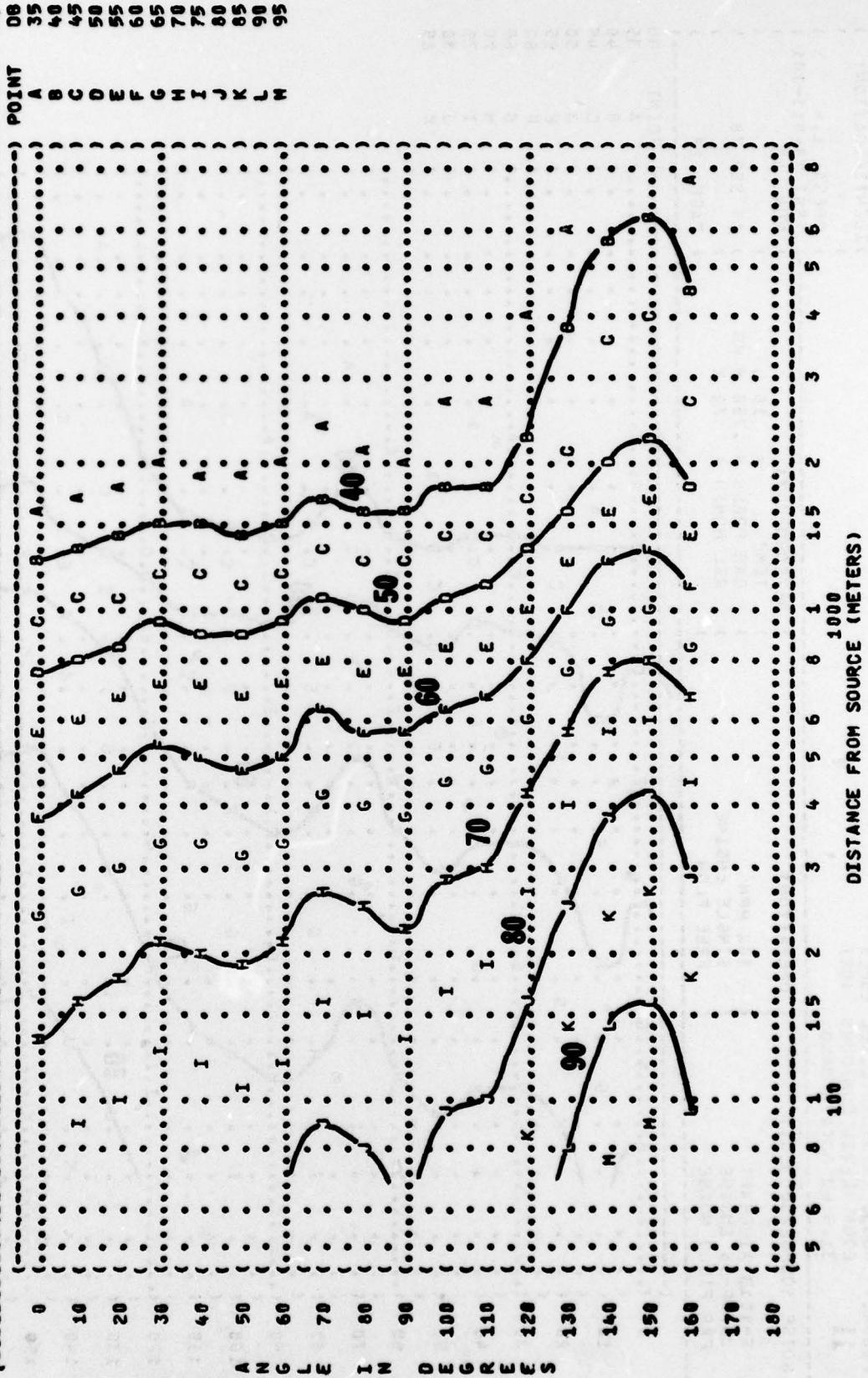


FIGURE : SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
11
125 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATIONS:

80% RPM
SINGLE ENGINE
FREE FLOW

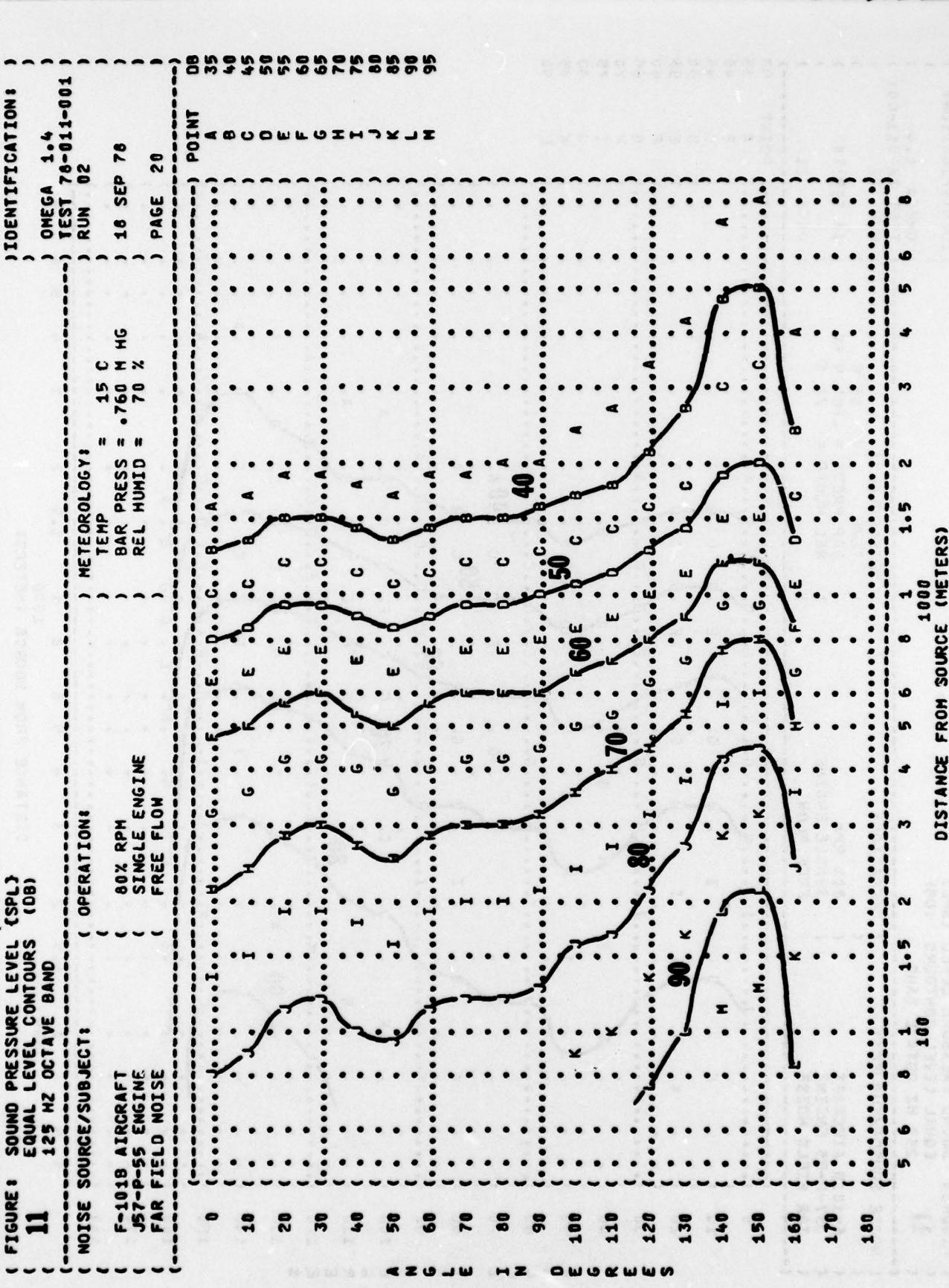


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
250 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:

800 RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:
OMEGA 1-4
TEST 76-011-001
RUN 02

10 SEP 76

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 N HG
REL HUMID = 70 %

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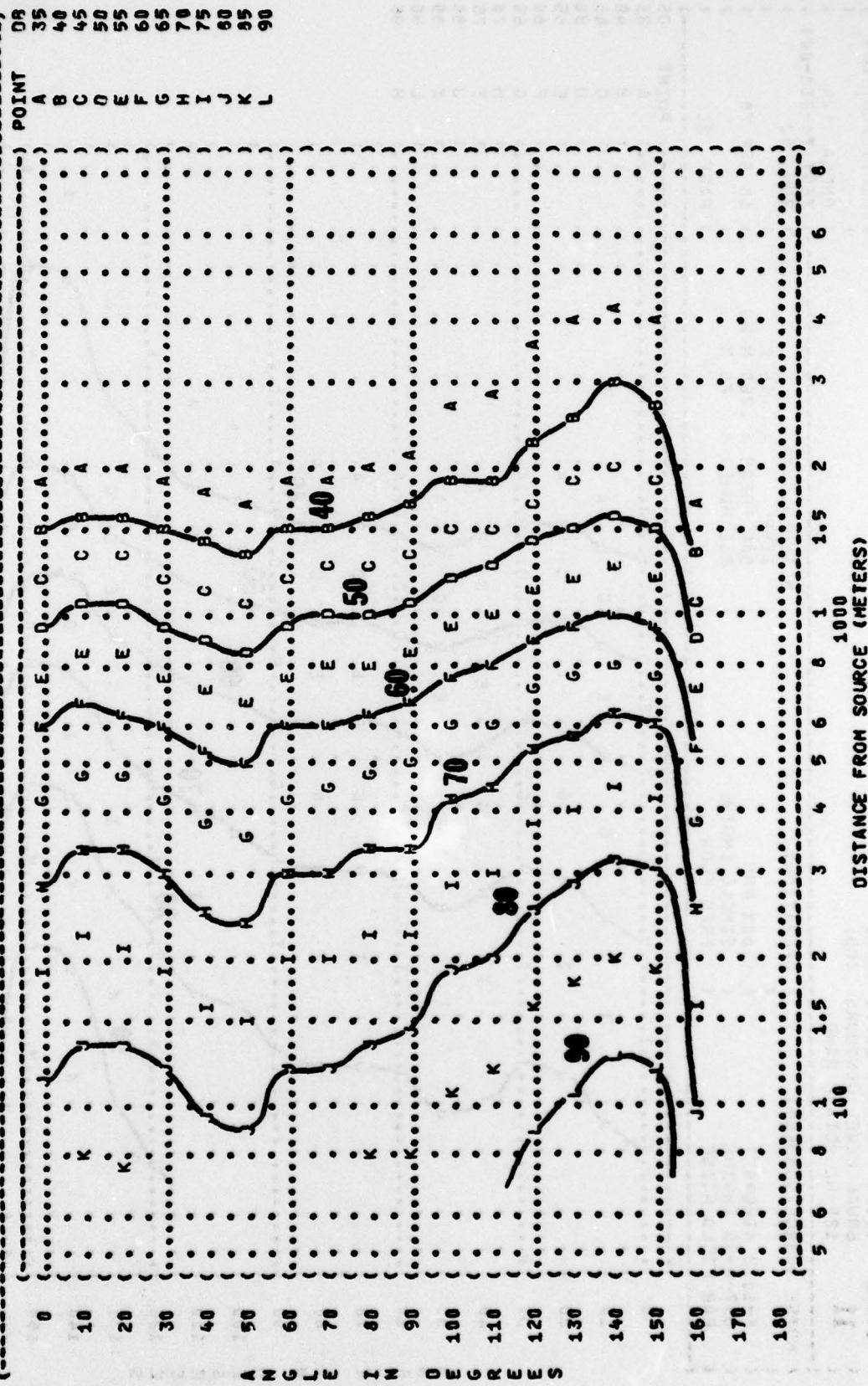


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS
1000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT: F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION: 80% RPM
SINGLE ENGINE
FREE FLOW

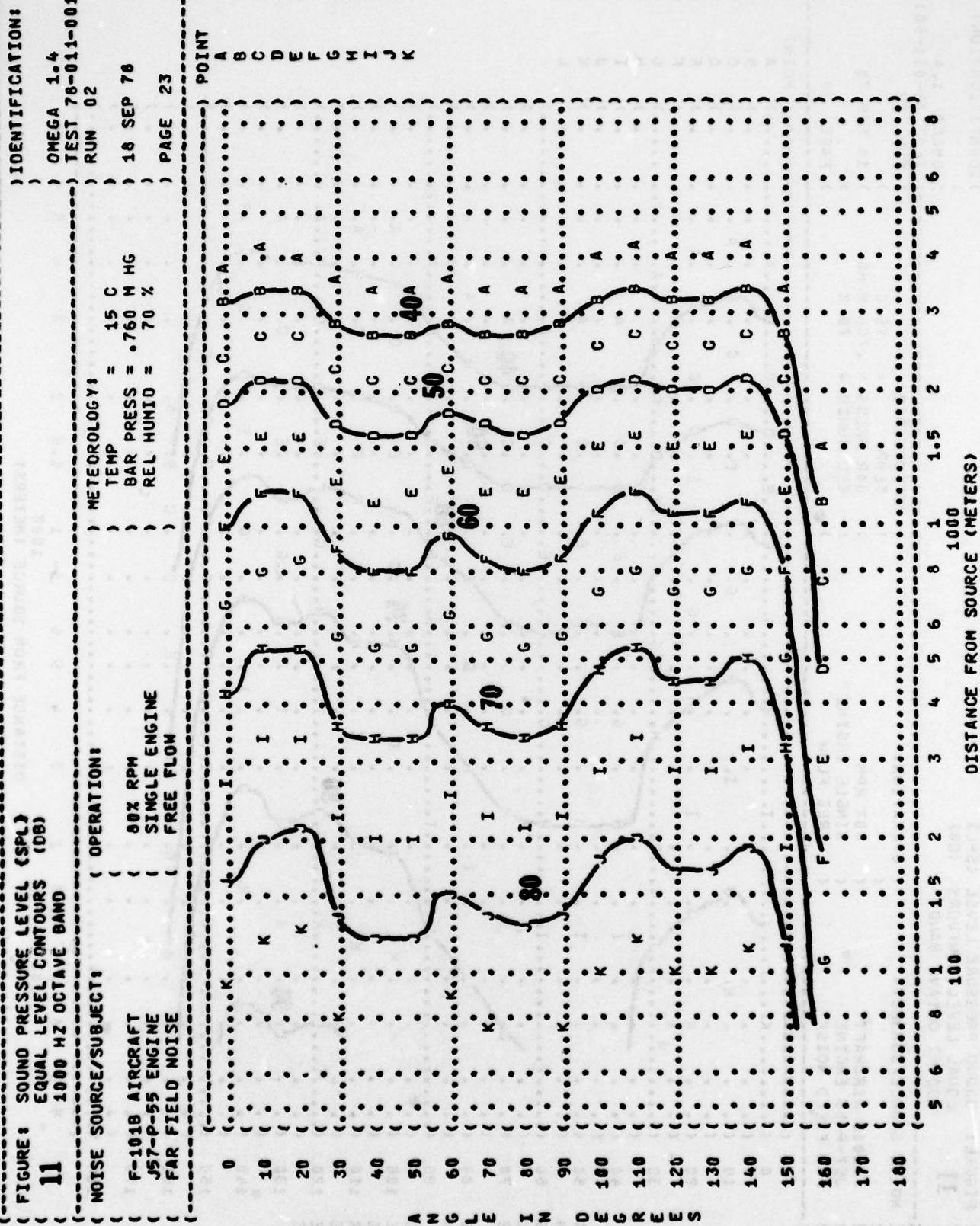


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
2000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
JS7-P-55 ENGINE
FAR FIELD NOISE

OPERATION:

80% RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:
OMEGA 1⁴
TEST 78-011-001
RUN 02
18 SEP 78
PAGE 24

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 M HG
REL HUMID = 70 %

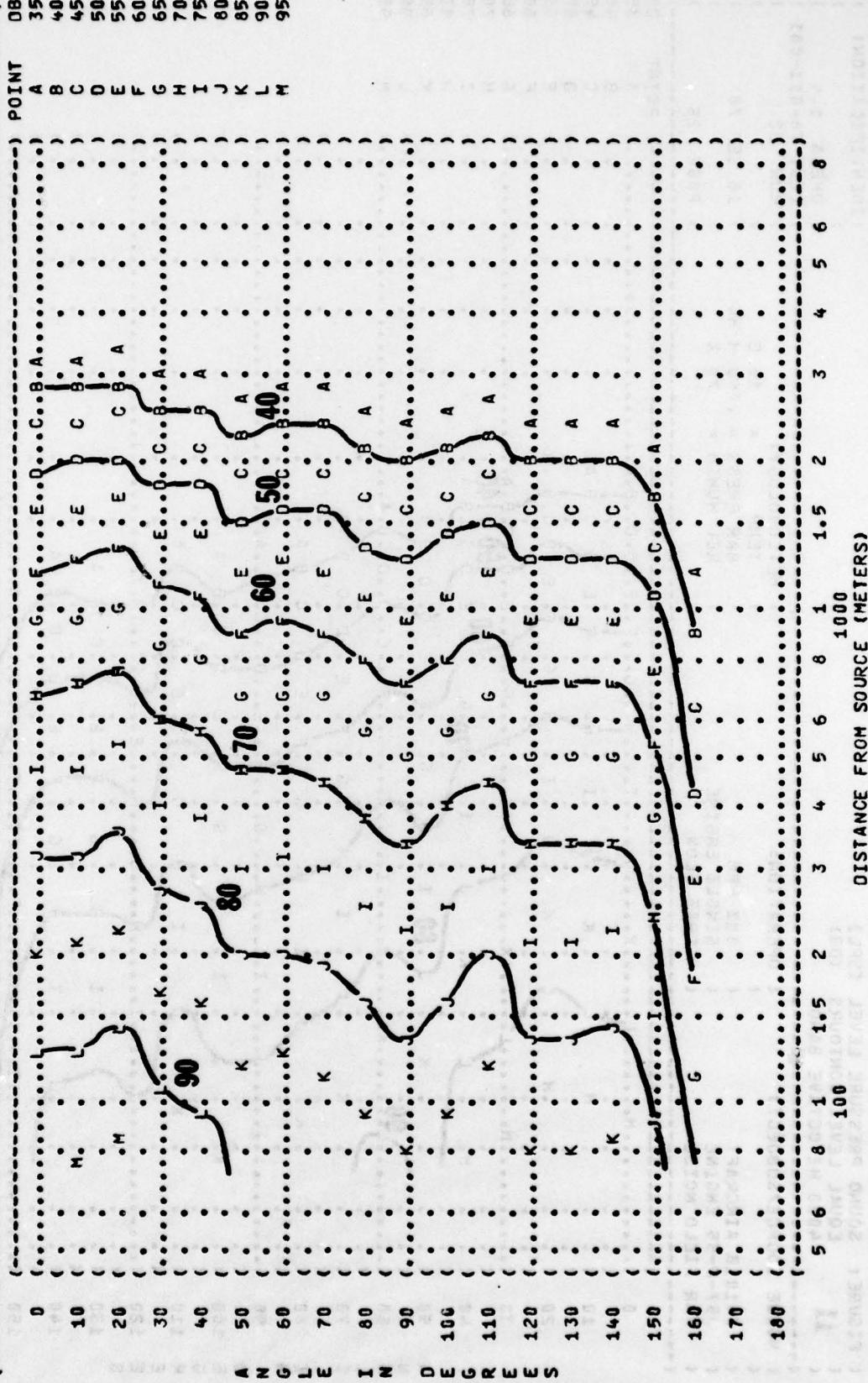


FIGURE: SOUND PRESSURE LEVEL (SPL)
11
EQUAL LEVEL CONTOURS (DB)
4000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:
80% RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:
OMEGA 1.4
TEST 76-011-001
RUN 02

10 SEP 76

PAGE 25

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 MM HG
REL HUMID = 70 %

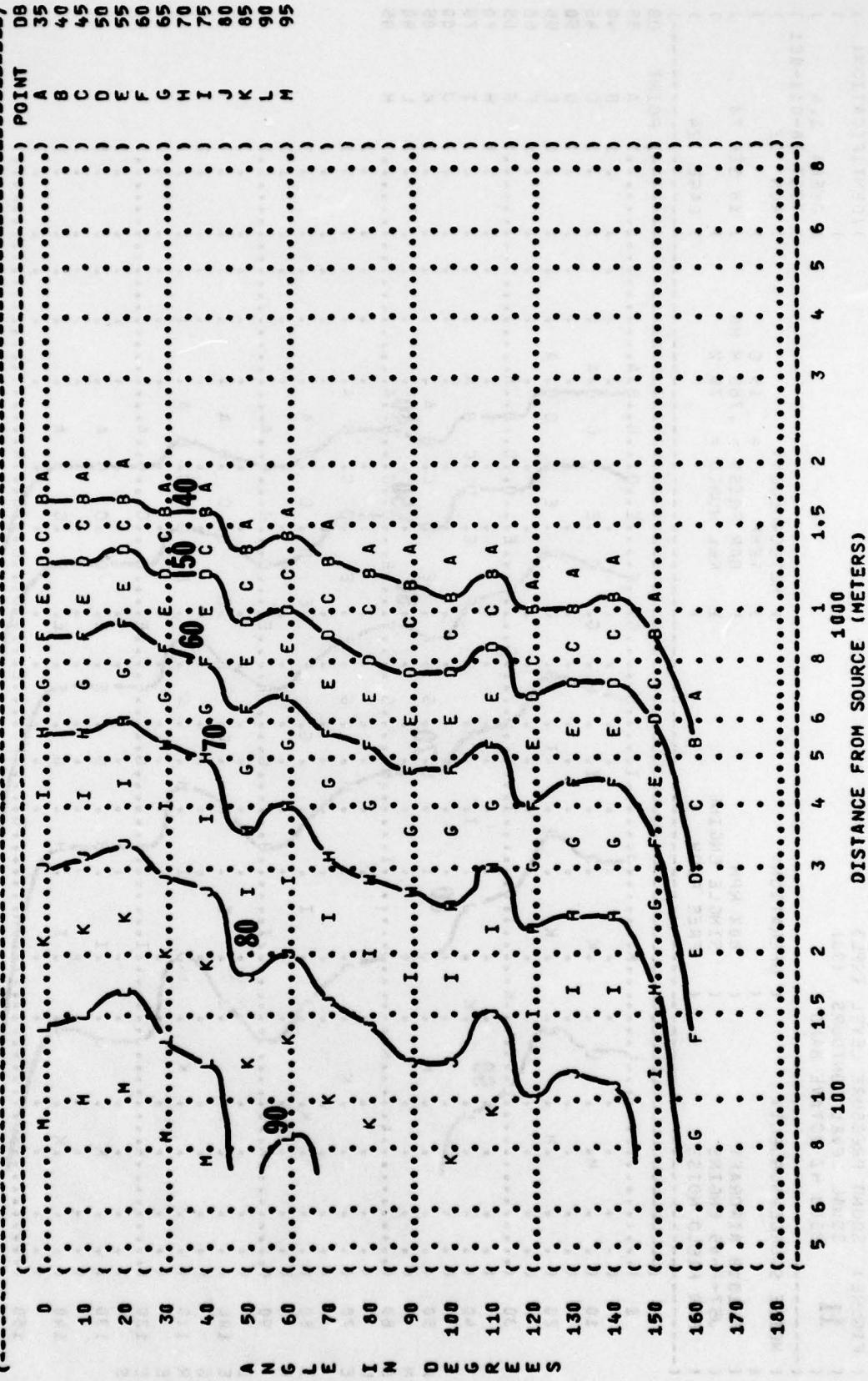


FIGURE: SOUND PRESSURE LEVEL (SPL)
11
EQUAL LEVEL CONTOURS (DB)
8000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT: F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:
80% RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:
OMEGA 1.4
TEST 78-011-001
RUN 02

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

PAGE 26

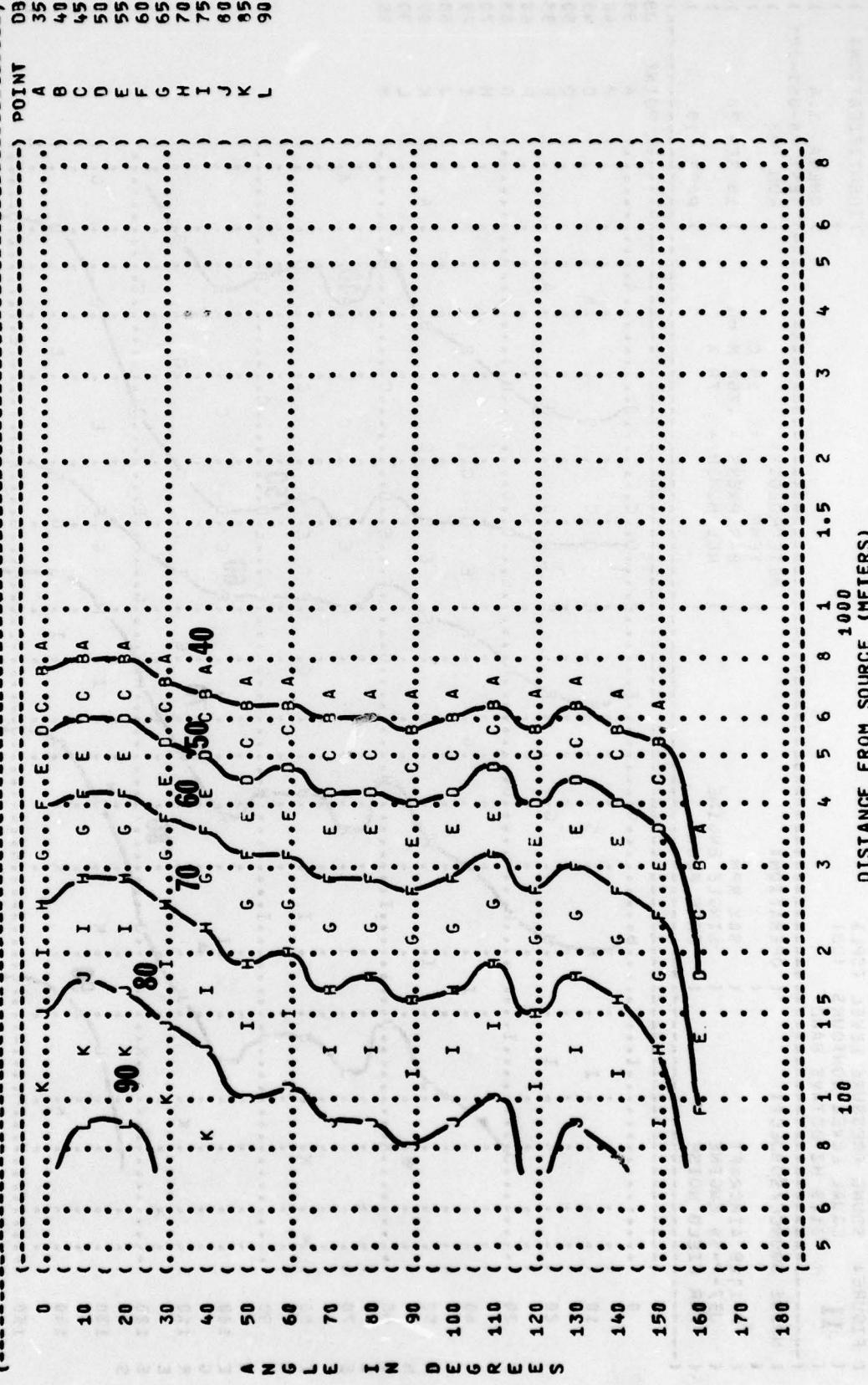


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
 31.5 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

(OPERATION:
 (90% RPM
 (SINGLE ENGINE
 (FREE FLOW
 F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

) IDENTIFICATIONS:

) OMEGA 1.0⁴
 TEST 78-011-001
 RUN 03

) METEOROLOGY:

) TEMP = 15 C
 BAR PRESS = .760 N HG
 REL HUMID = 70 %
 PAGE 18

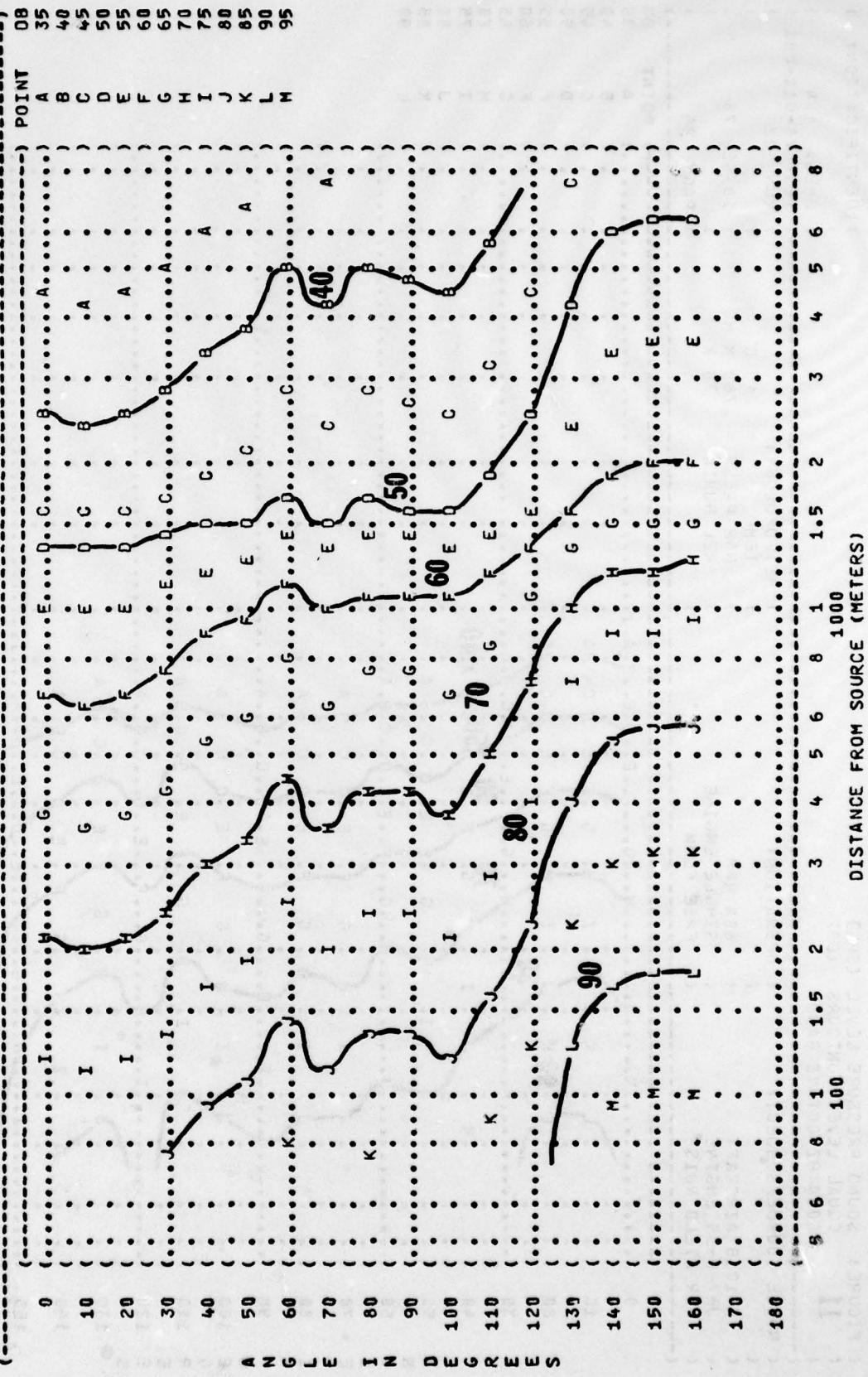


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
11 63 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:
90% RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:
OMEGA 1.4
TEST 76-011-001
RUN 03
18 SEP 78
PAGE 19

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 MM HG
REL HUMID = 70 %

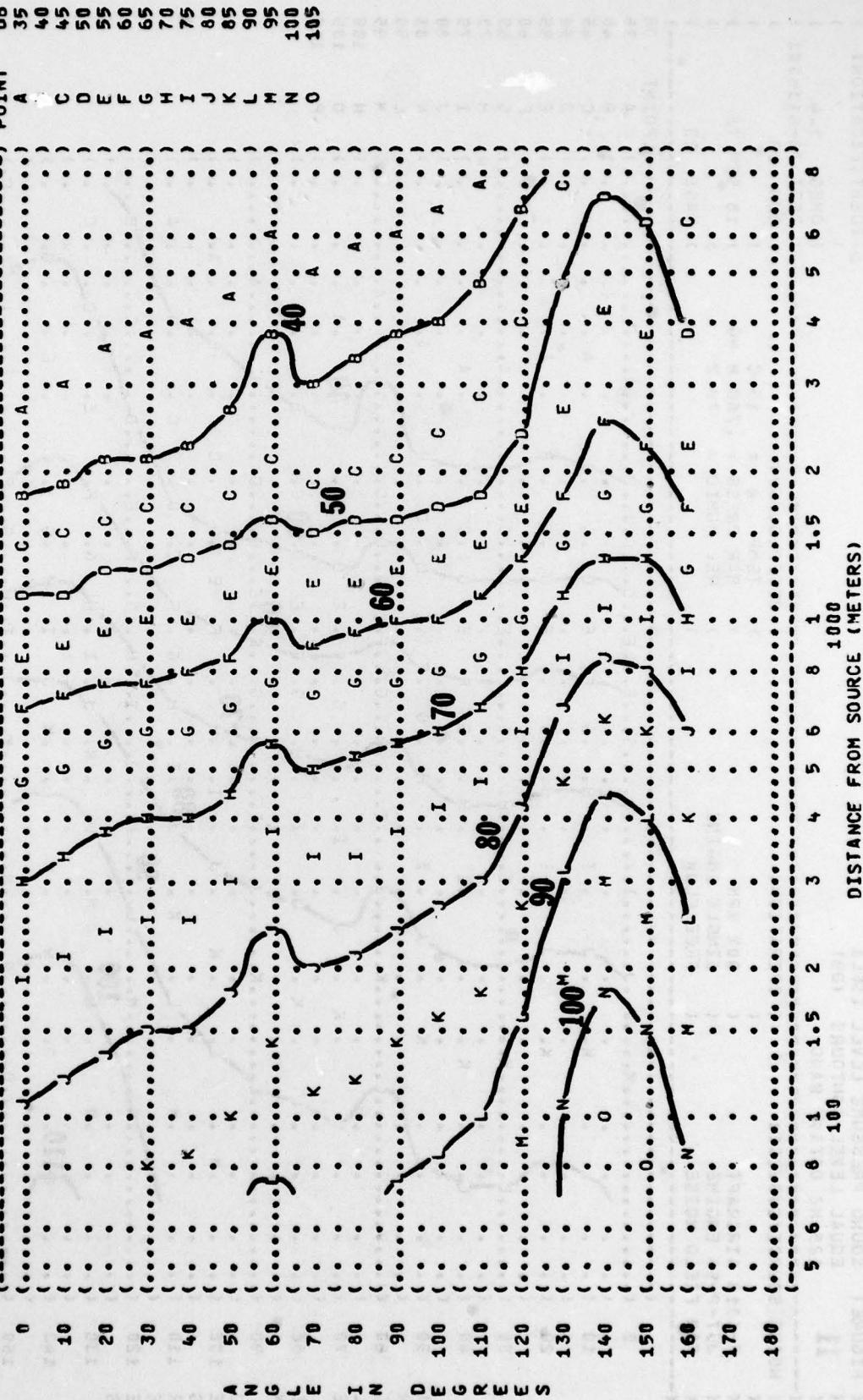


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
 EQUAL LEVEL CONTOURS (DB)
 11 125 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATION:

90% RPM
 SINGLE ENGINE
 FREE FLOW

IDENTIFICATION:
 OMEGA 1-4
 TEST 78-011-001
 RUN 03

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 Hg
 REL HUMID = 70 %
 PAGE 20

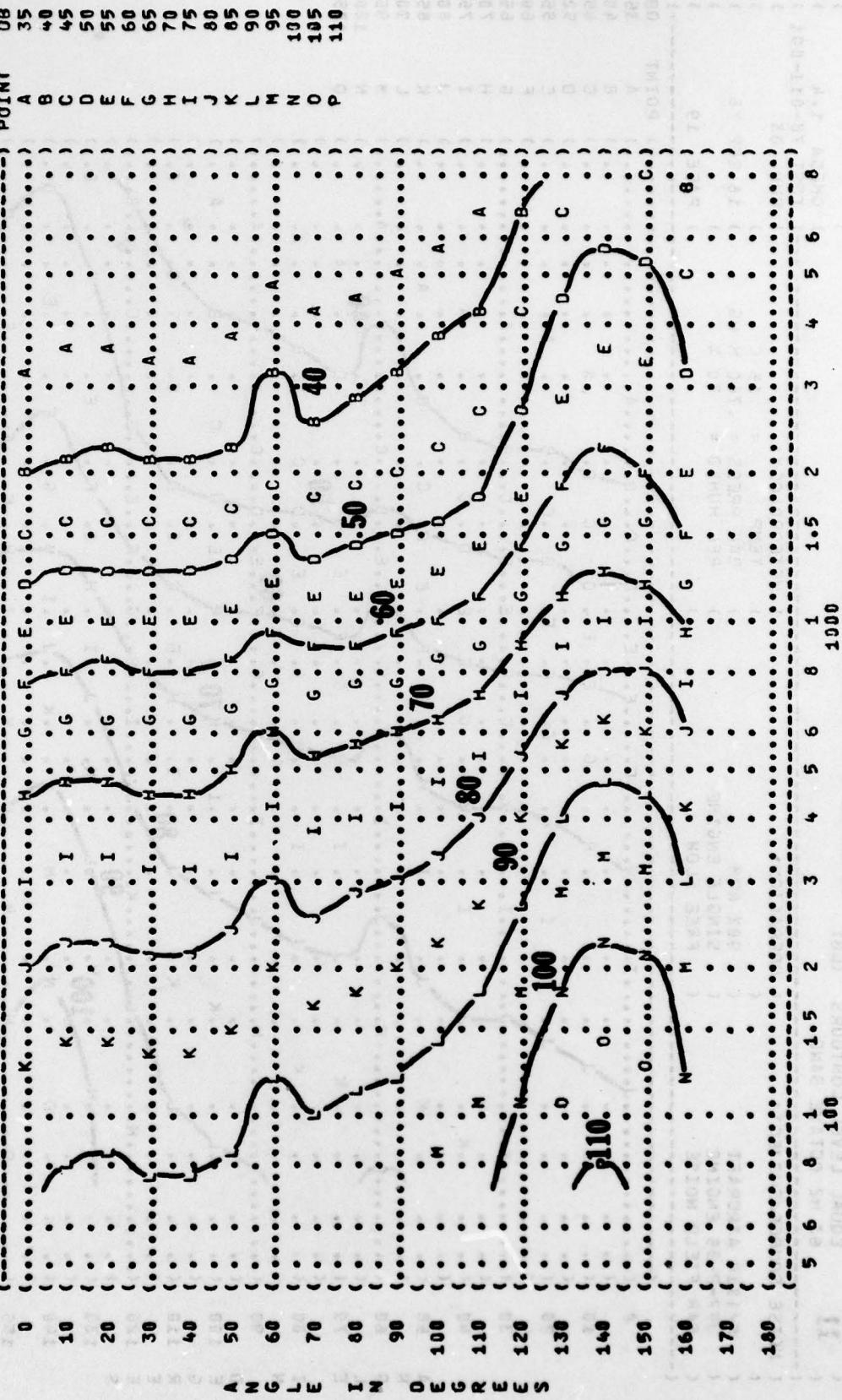


FIGURE 11 SOUND PRESSURE LEVEL (SPL) DISTANCE FROM SOURCE (METERS)

OPERATION:
90% RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:
OMEGA 1•⁴
TEST 76-011-001
RUN 03

METEOROLOGY:
TEMP = 15 C
BAR PRESS = 760 MM HG
REL HUMID = 70 %

PAGE 21

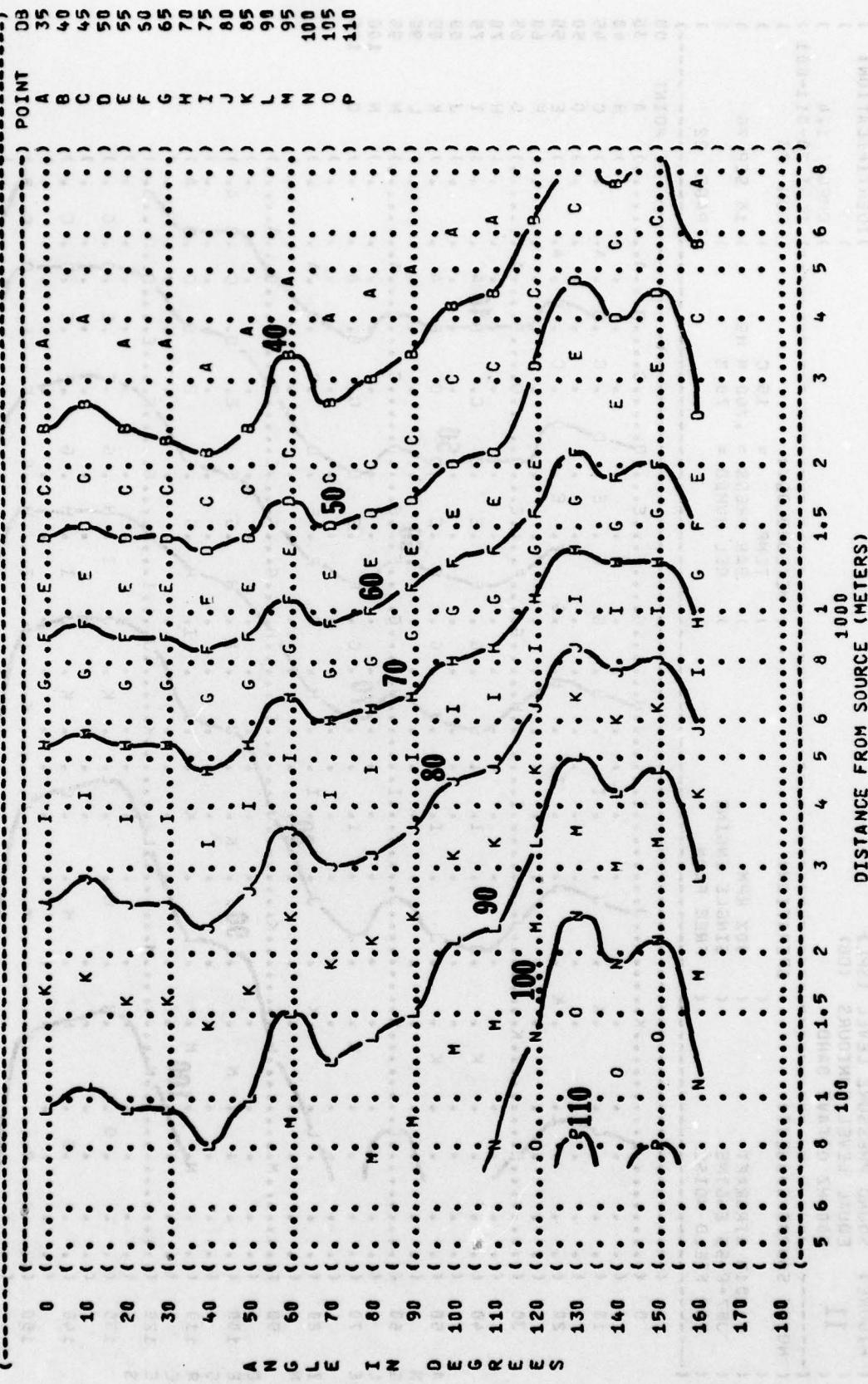


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
 500 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT: OPERATION:
 F-101B AIRCRAFT 90% RPM
 J57-P-55 ENGINE SINGLE ENGINE
 FAR FIELD NOISE FREE FLOW

IDENTIFICATION:
 OMEGA 1•4
 TEST 78-011-001
 RUN 03
 PAGE 22

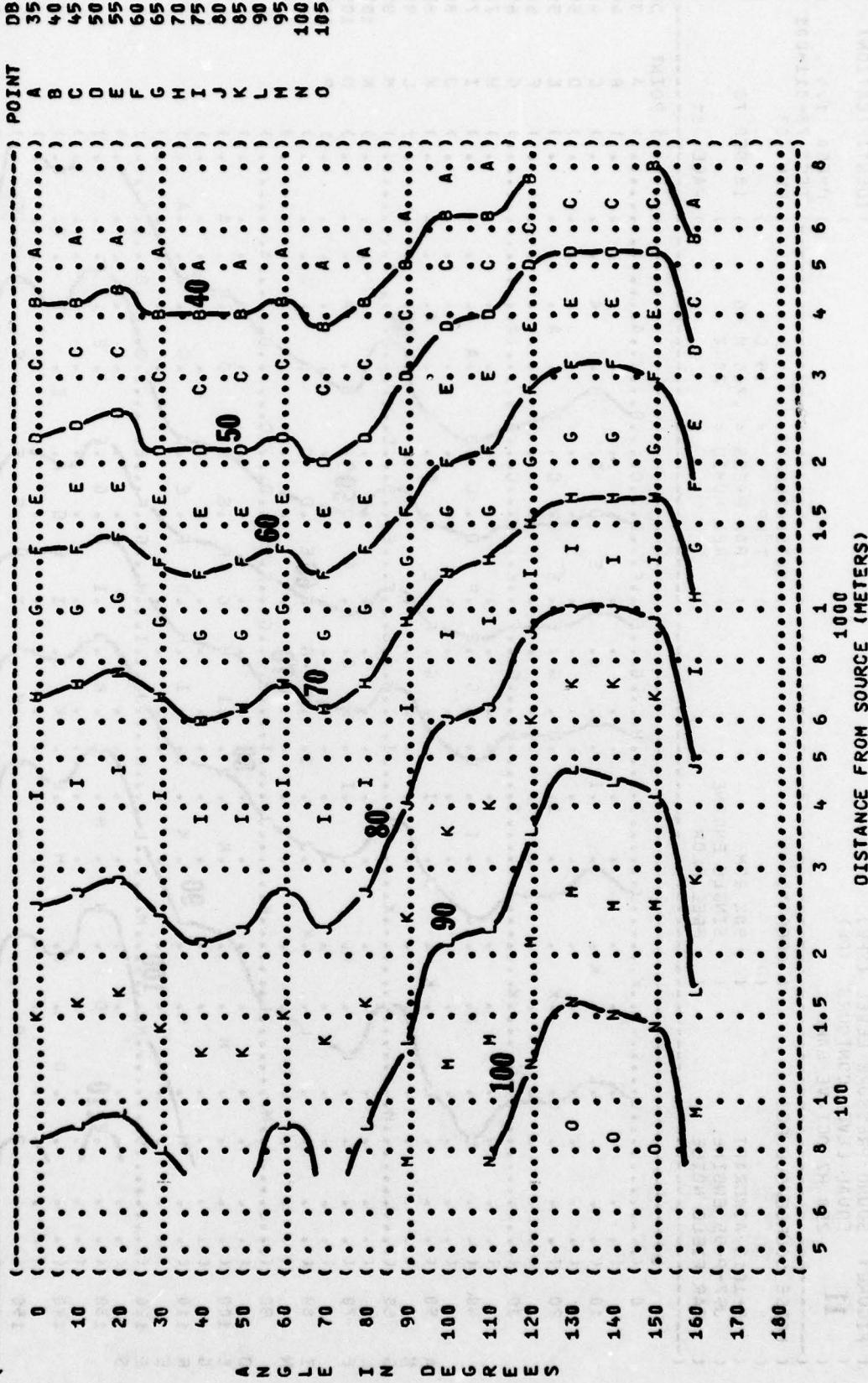


FIGURE : SOUND PRESSURE LEVEL {SPL}
11 EQUAL LEVEL CONTOURS (DB)
 1000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT :

F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATION :

90% RPM
 SINGLE ENGINE
 FREE FLOW

IDENTIFICATION:

OMEGA 1•4

TEST 78-011-001

RUN 03

24 JAN 79

PAGE 23

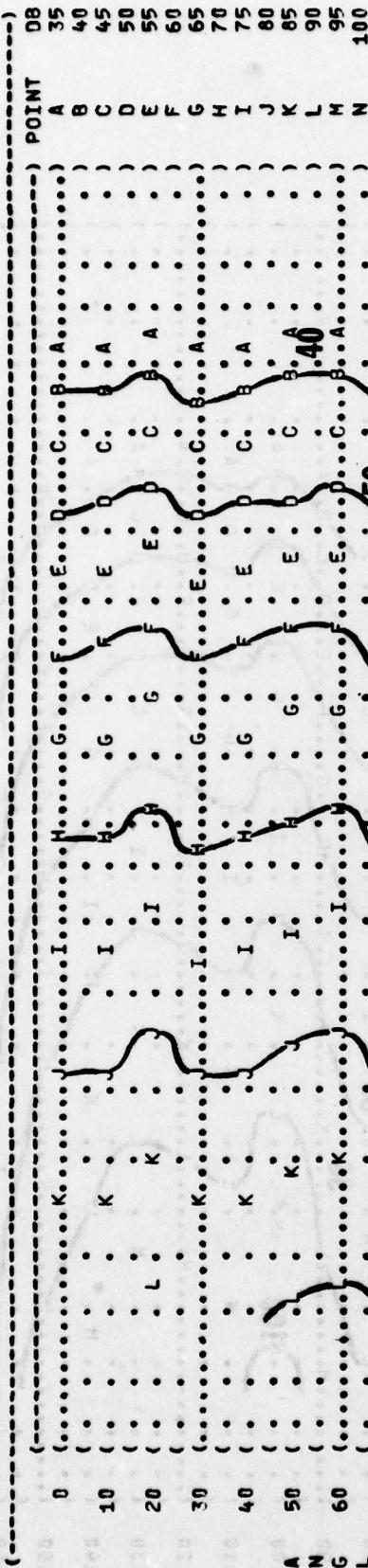
METEOROLOGIC

TEMP = 15 C

BAR PRESS = .760 MM HG

REL HUMID = 70 %

PAGE 23



DISTANCE FROM SOURCE (METERS)

5 6 7 8 1 1.5 2 3 4 5 6 8 1 1.5 2 3 4 5 6 8

1000 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100

FIGURE: SOUND PRESSURE LEVEL (SPL)
 11 EQUAL LEVEL CONTOURS (DB)
 2000 Hz OCTAVE BAND
 NOISE SOURCE/SUBJECT:
 F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE
 OPERATION:
 90% RPM
 SINGLE ENGINE
 FREE FLOW

IDENTIFICATION:
 OMEGA 1.4
 TEST 78-011-001
 RUN 03
 METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %
 PAGE 24

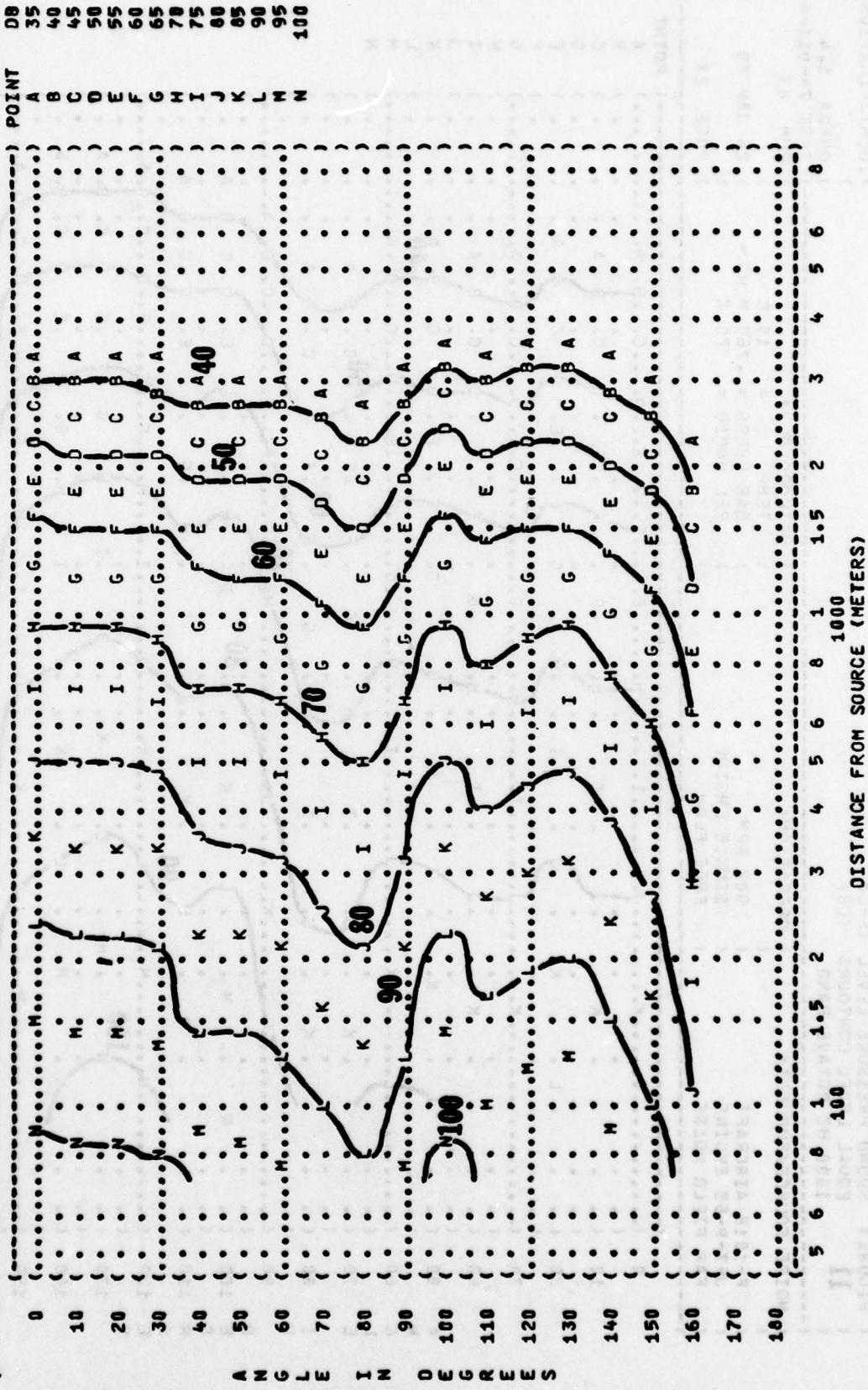


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:

90% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 MG
REL HUMID = 70 %

TEST 78-011-001

RUN 03

PAGE 25

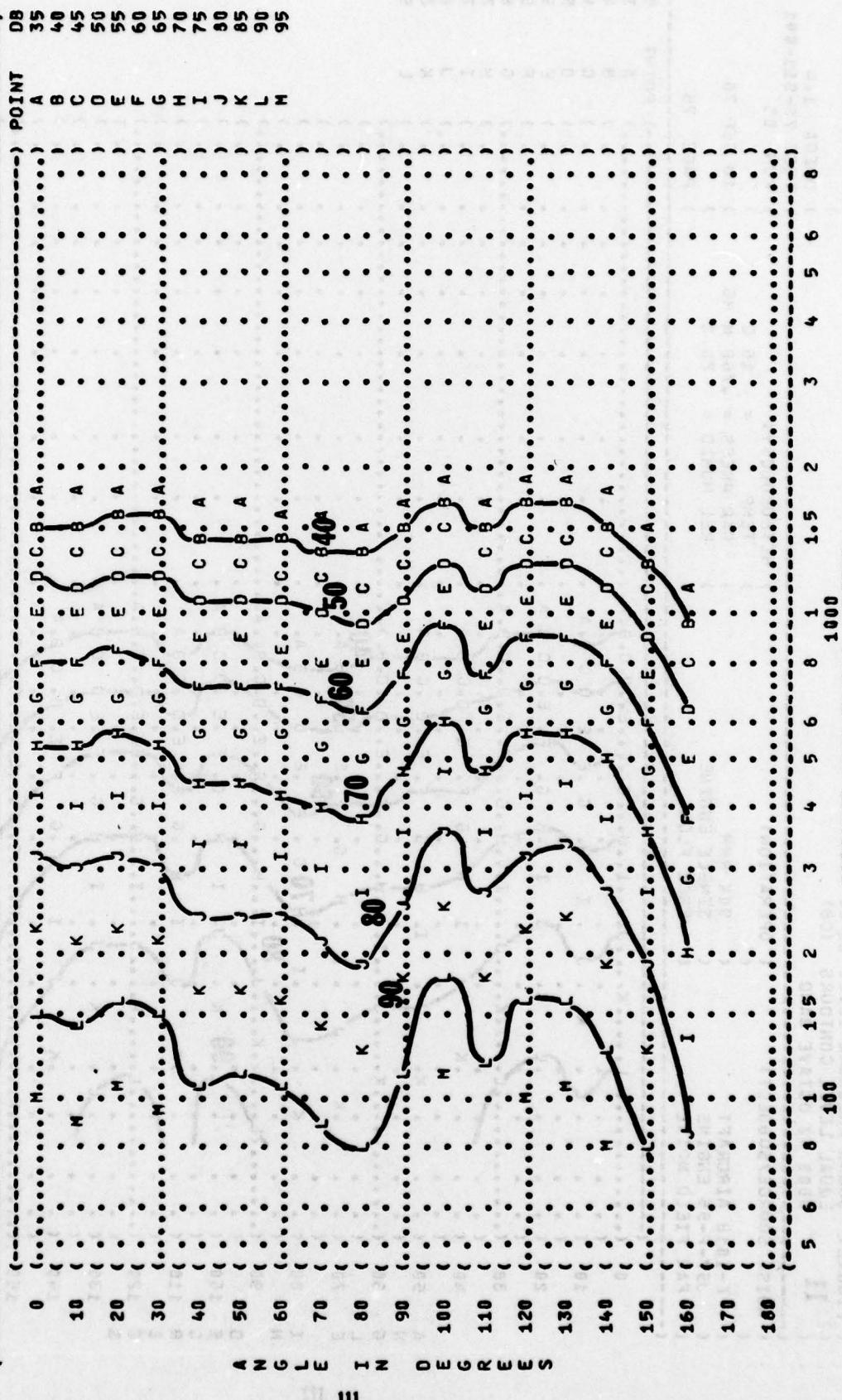


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:

90% RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:

OMEGA 1-4
TEST 78-011-001
RUN 03

PAGE 26

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 Hg
REL HUMID = 70 %

PAGE 26

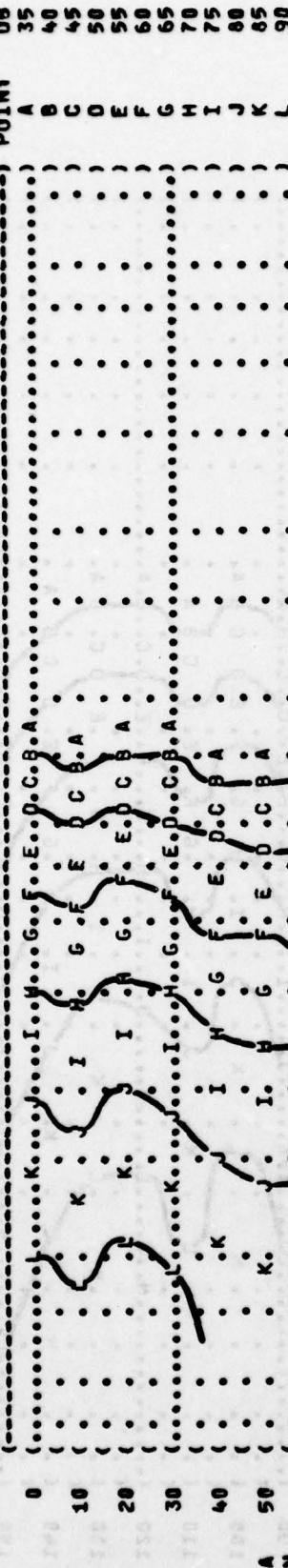


FIGURE 11
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS
31.5 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
95.5% RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:
OMEGA 1-4
TEST 70-011-001
RUN 04
24 JAN 79
PAGE 18

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 MM HG
REL HUMID = 70 %

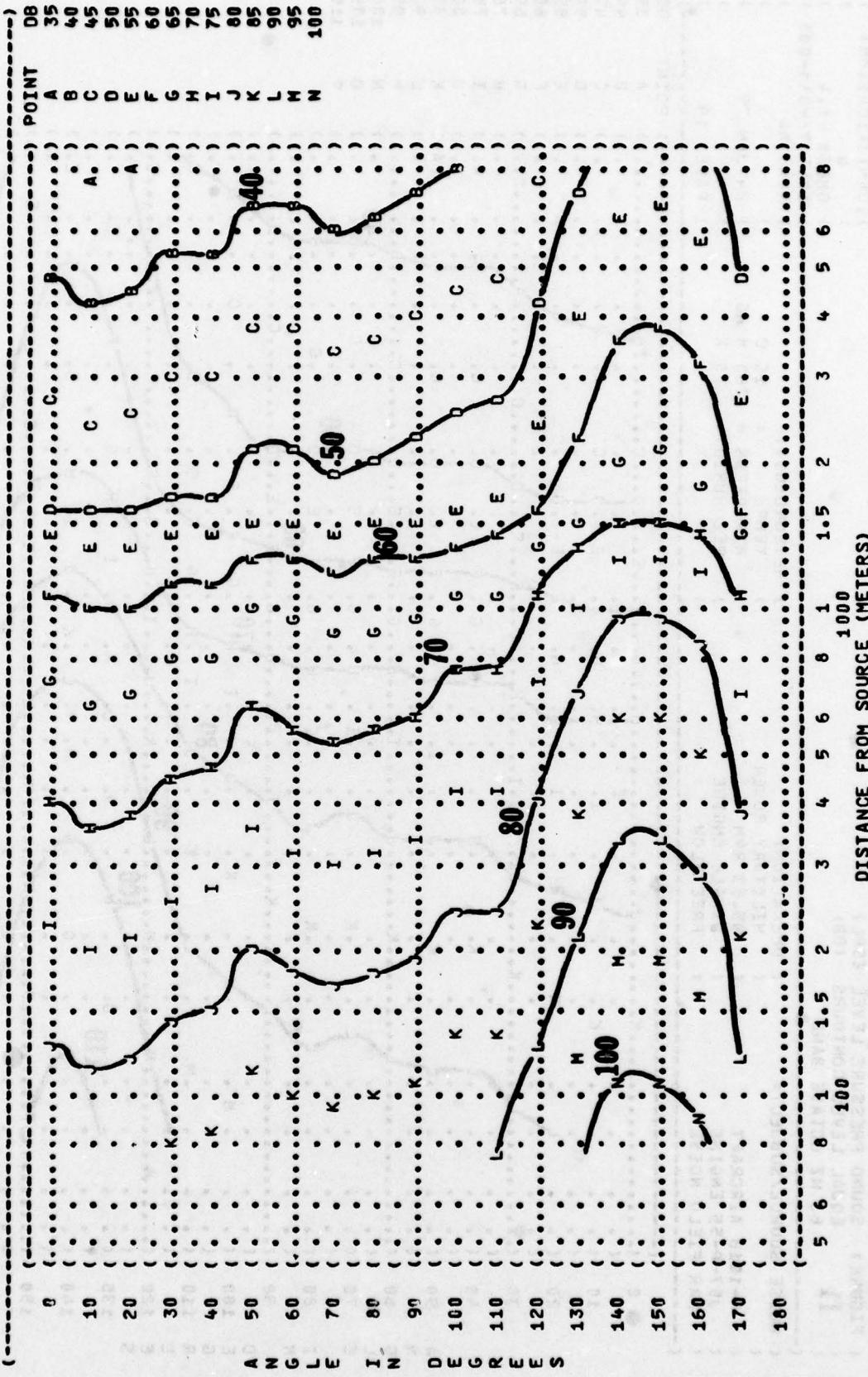


FIGURE: SOUND PRESSURE LEVEL (CPL)
11 EQUAL LEVEL CONTOURS (DB)
63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION: MILITARY POWER
95.5% RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:
OMEGA 1.4
TEST 78-011-001
RUN 04
24 JAN 79

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 HG
REL HUMID = 70 %

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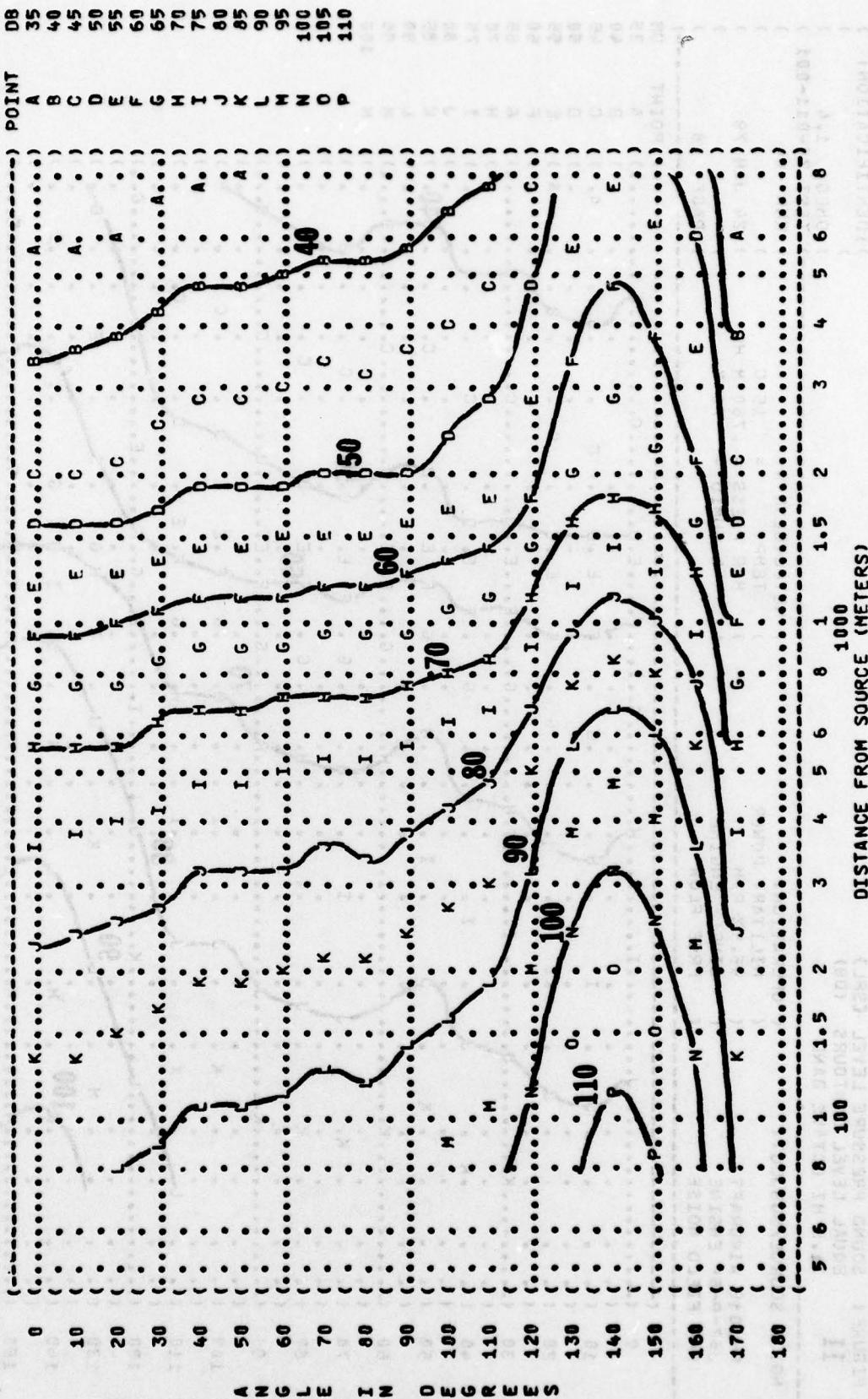


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS
250 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
95.5% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
TEST 76-011-001
RUN 04
16 SEP 76
PAGE 21

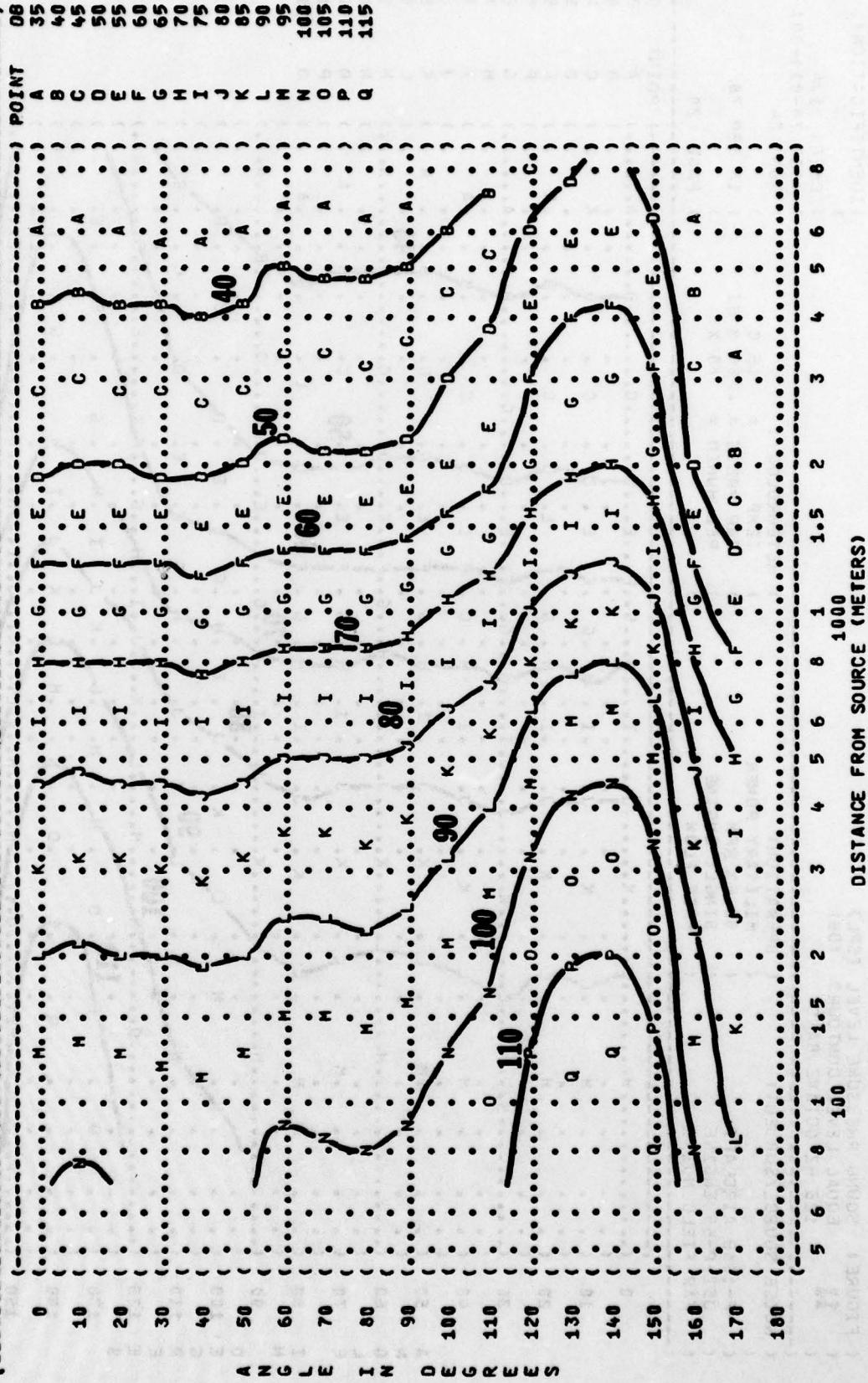


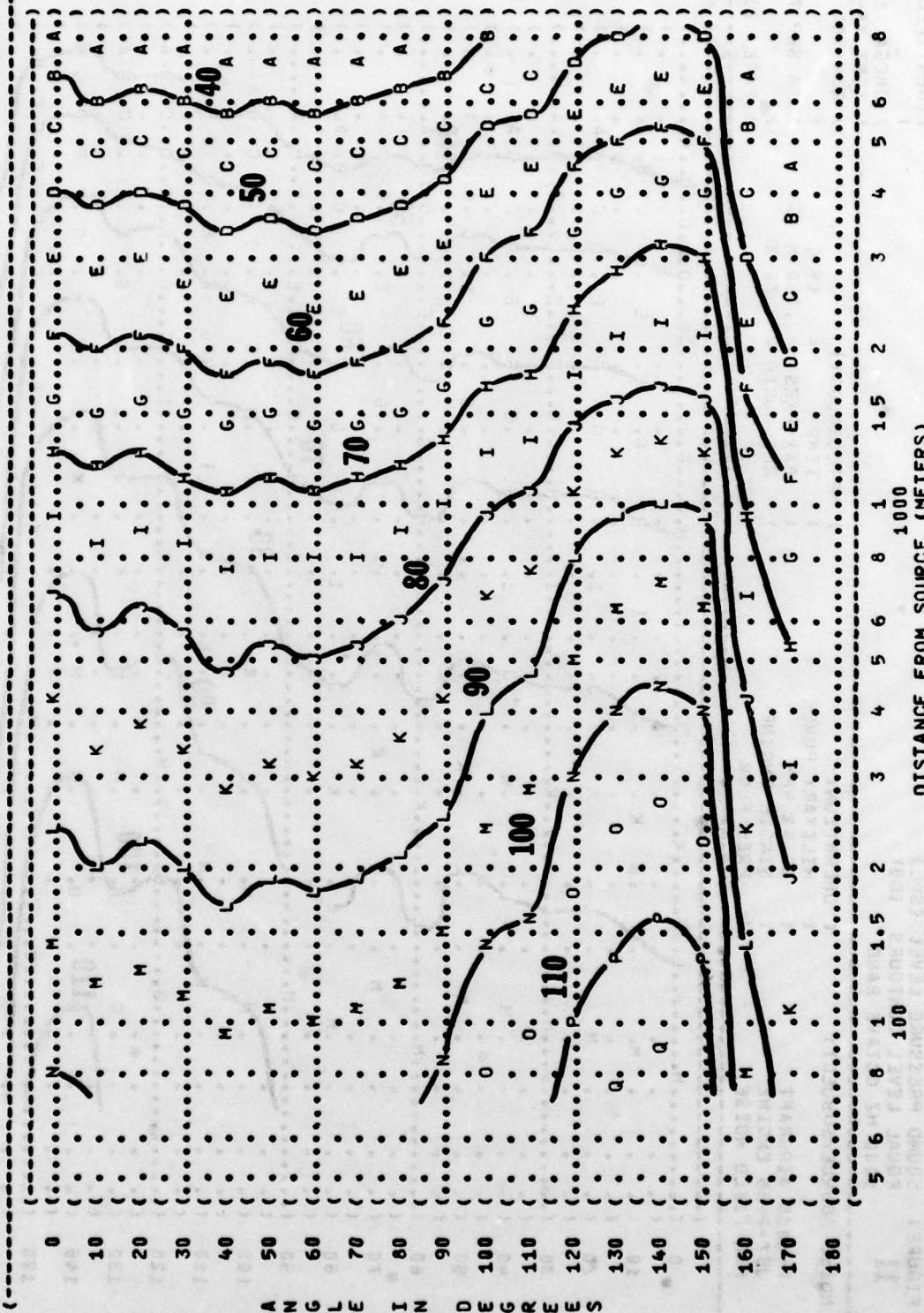
FIGURE 4 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
 500 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

- () MILITARY POWER
- () 95.5% RPM
- () SINGLE ENGINE
- () FREE FLOW

OPERATION:
) IDENTIFICATION:
) OMEGA 1.4
) TEST 76-011-001
) RUN 04
) PAGE 22

METEOROLOGY:
) TEMP = 15 C
) BAR PRESS = .760 Hg
) REL HUMID = 70 %
) POINT DB
) A 35
) B 40
) C 45
) D 50
) E 55
) F 60
) G 65
) H 70
) I 75
) J 80
) K 85
) L 90
) M 95
) N 100
) O 105
) P 110
) Q 115
) R 120
) S 130
) T 140
) U 150
) V 160
) W 170
) X 180
) Y 100
) Z 117



DISTANCE FROM SOURCE (METERS)

FIGURE 1 SOUND PRESSURE LEVEL (SPL)
 11 EQUAL LEVEL CONTOURS
 1000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
 F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATIONS:
 MILITARY POWER
 95.5% RPM
 SINGLE ENGINE
 FREE FLOW

METEOROLOGY:
 TEMP = 15°C
 BAR PRESS = .760 MM HG
 REL HUMID = 70%

TEST 78-011-001
 RUN 04
 18 SEP 78
 PAGE 23

FIGURE: SOUND PRESSURE LEVEL {SPL}
11
 EQUAL LEVEL CONTOURS (DB)
 2000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
 F-101B AIRCRAFT
 J57-P-5S ENGINE
 FAR FIELD NOISE

OPERATIONS:
 MILITARY POWER
 95.5% RPM
 SINGLE ENGINE
 FREE FLOW

IDENTIFICATION:
 OMEGA 1.4
 TEST 76-011-001
 RUN 04
 18 SEP 76
 PAGE 24

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 Hg
 REL HUMID = 70 %

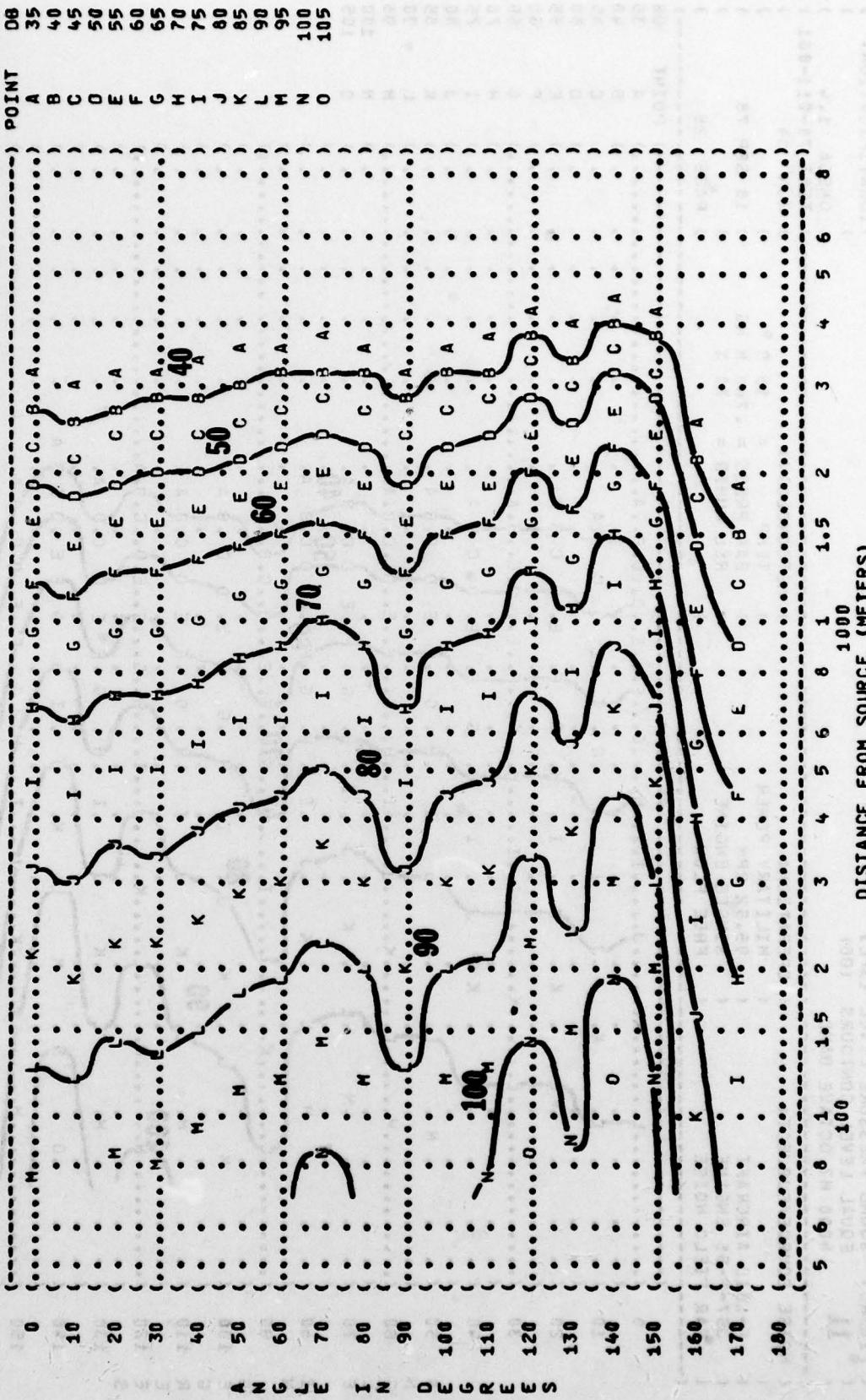


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
4000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT	OPERATION
F-101B AIRCRAFT	MILITARY POWER
J57-P-55 ENGINE	95.5% RPM
FAR FIELD NOISE	SINGLE ENGINE FREE FLOW

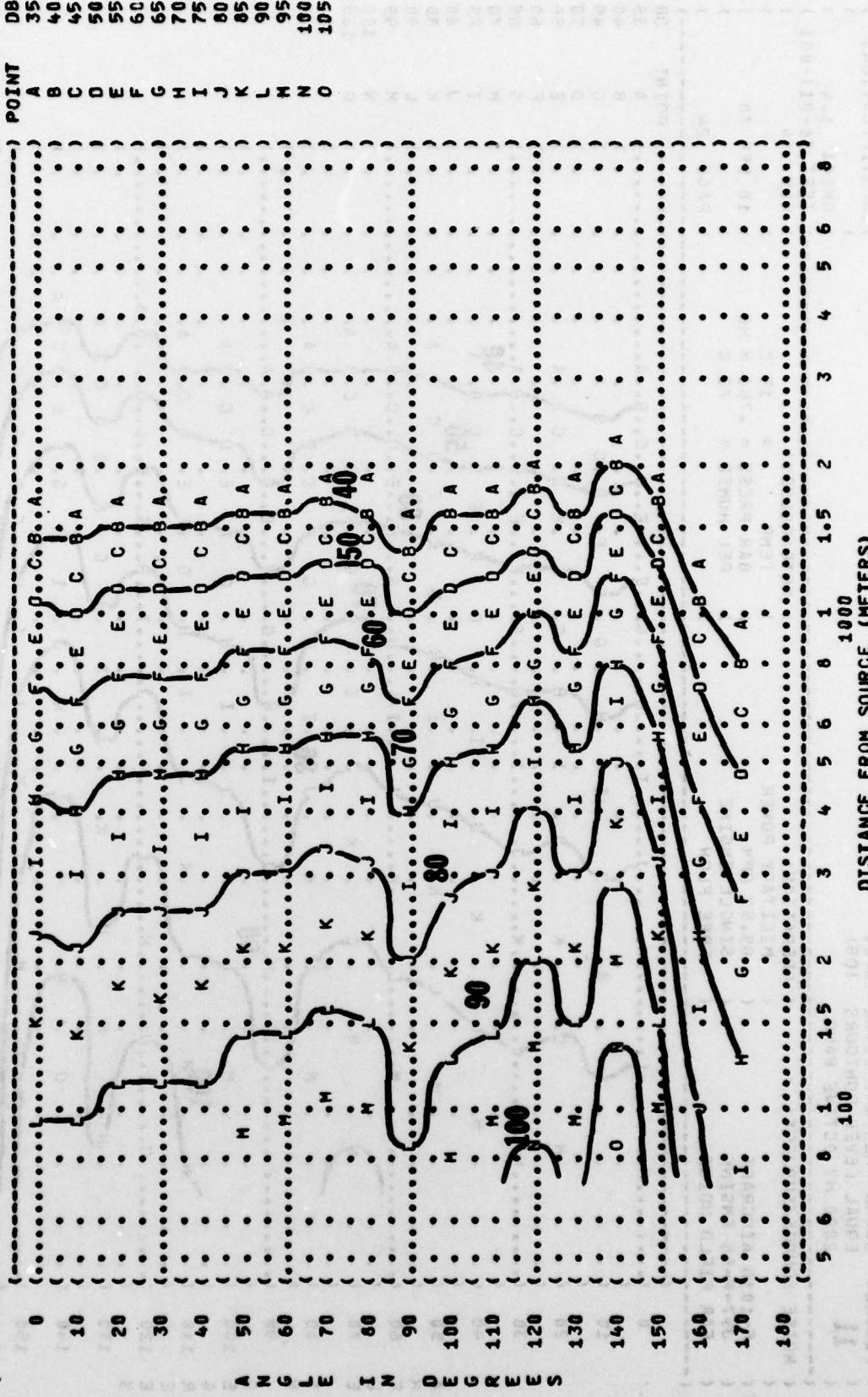


FIGURE : SOUND PRESSURE LEVEL (SPL)
11
 EQUAL LEVEL CONTOURS (DB)
 63 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATIONS:
 AFTERBURNER POWER
 96% RPM
 SINGLE ENGINE
 FREE FLOW

IDENTIFICATION:
OMEGA 1.4
 TEST 78-011-001
 RUN 05
 18 SEP 78
 PAGE 19

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 Hg
 REL HUMID = 70 %

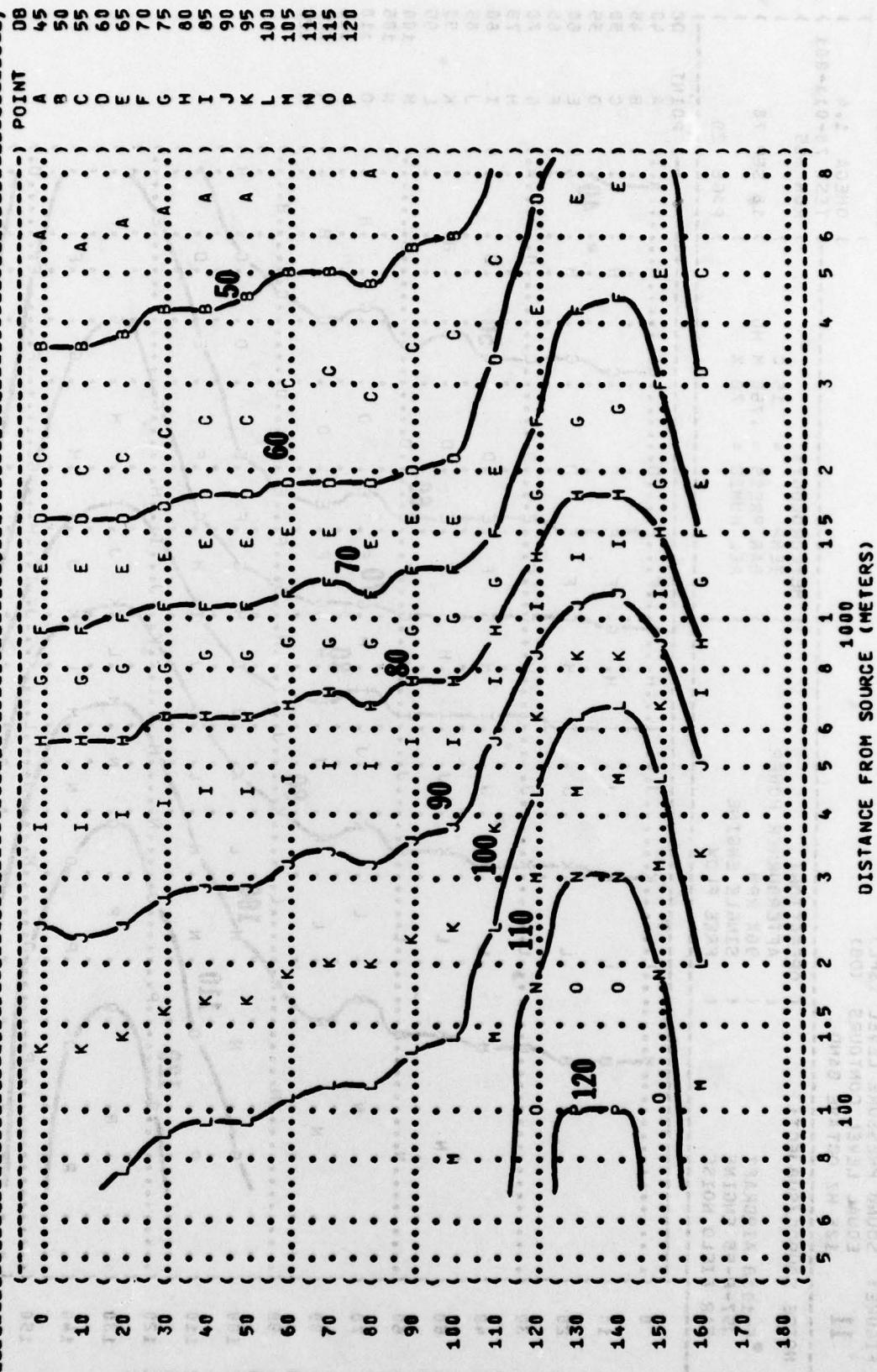


FIGURE: SOUND PRESSURE LEVEL (SPL)
11
 EQUAL LEVEL CONTOURS (DB)
 125 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
 F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATION:
 AFTERBURNER POWER
 96% RPM
 SINGLE ENGINE
 FREE FLOW

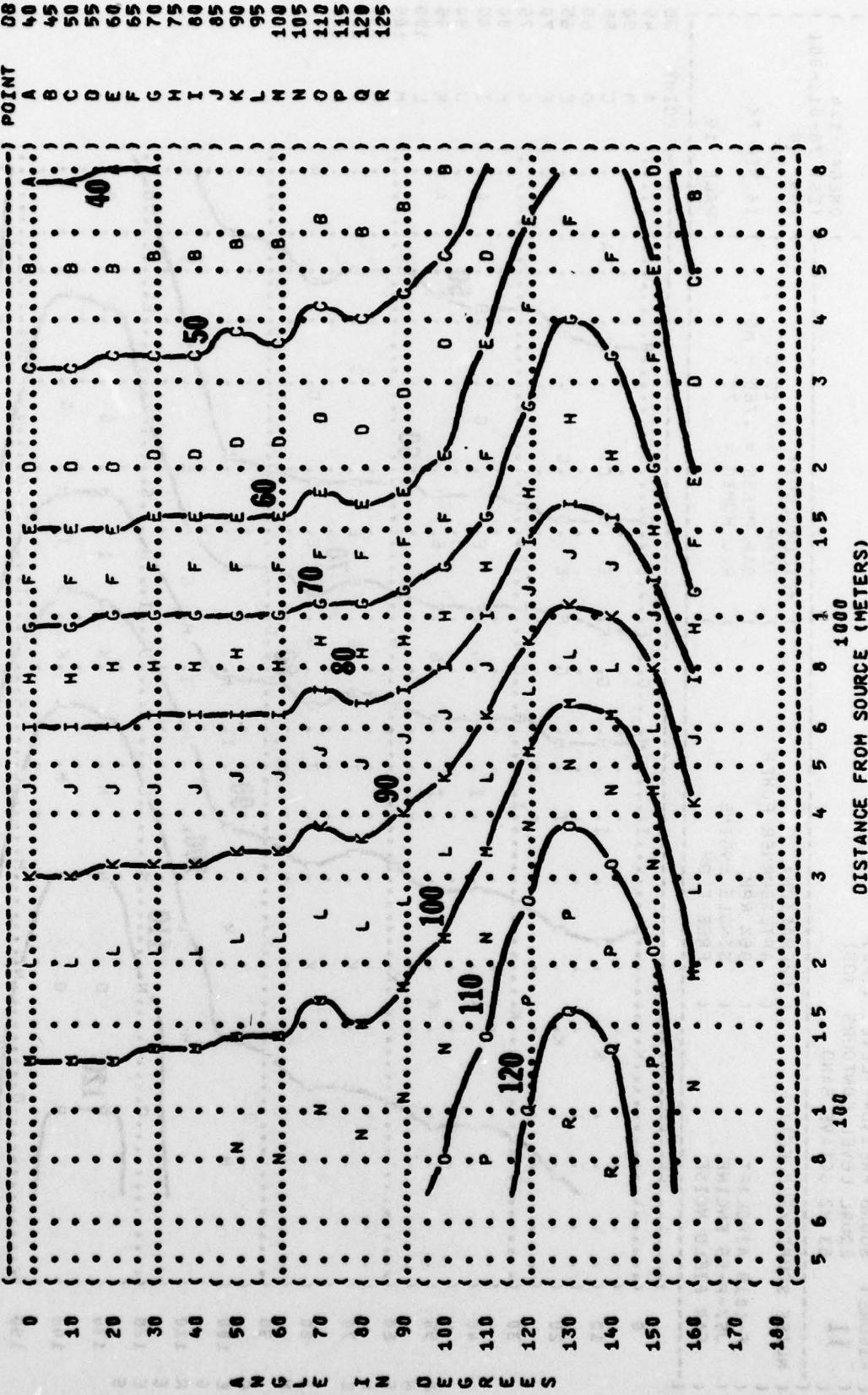


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (DB)
 250 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATION:
 AFTERBURNER POWER
 96% RPM
 SINGLE ENGINE
 FREE FLOW

IDENTIFICATION:
 OMEGA 1.4
 TEST 78-011-001
 RUN 05
 24 JAN 79
 PAGE 21

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 MM HG
 REL HUMID = 70 %

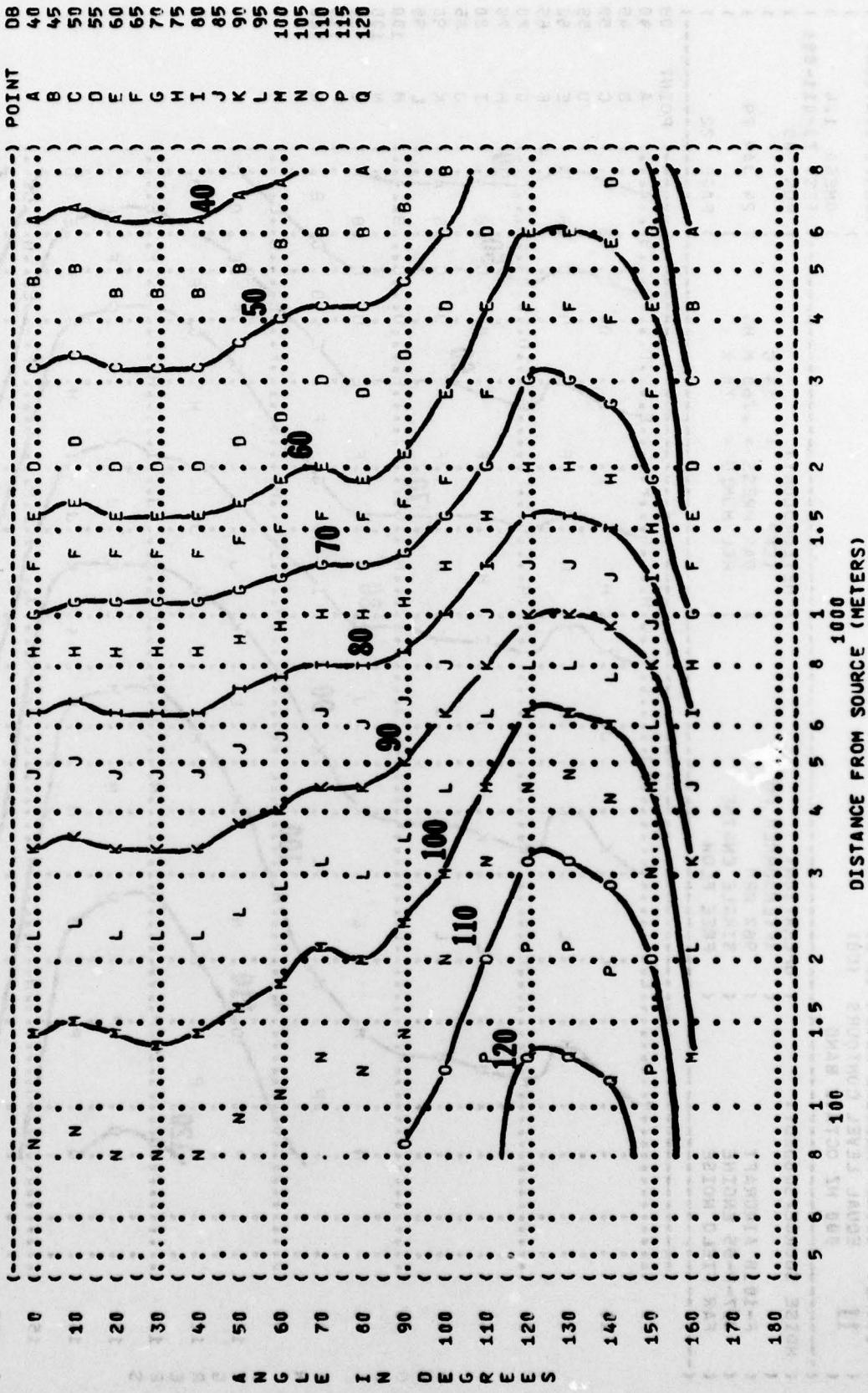


FIGURE: SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS (dB)
500 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

- () F-101B AIRCRAFT
- () J57-P-55 ENGINE
- () FAR FIELD NOISE
- () AFTERBURNER POWER
- () 96% RPM
- () SINGLE ENGINE
- () FREE FLOW

OPERATION:

TEMP = 15 C
BAR PRESS = 760 Hg
REL HUMID = 70 %
TEST 78-011-001
RUN 05
24 JAN 79
PAGE 22

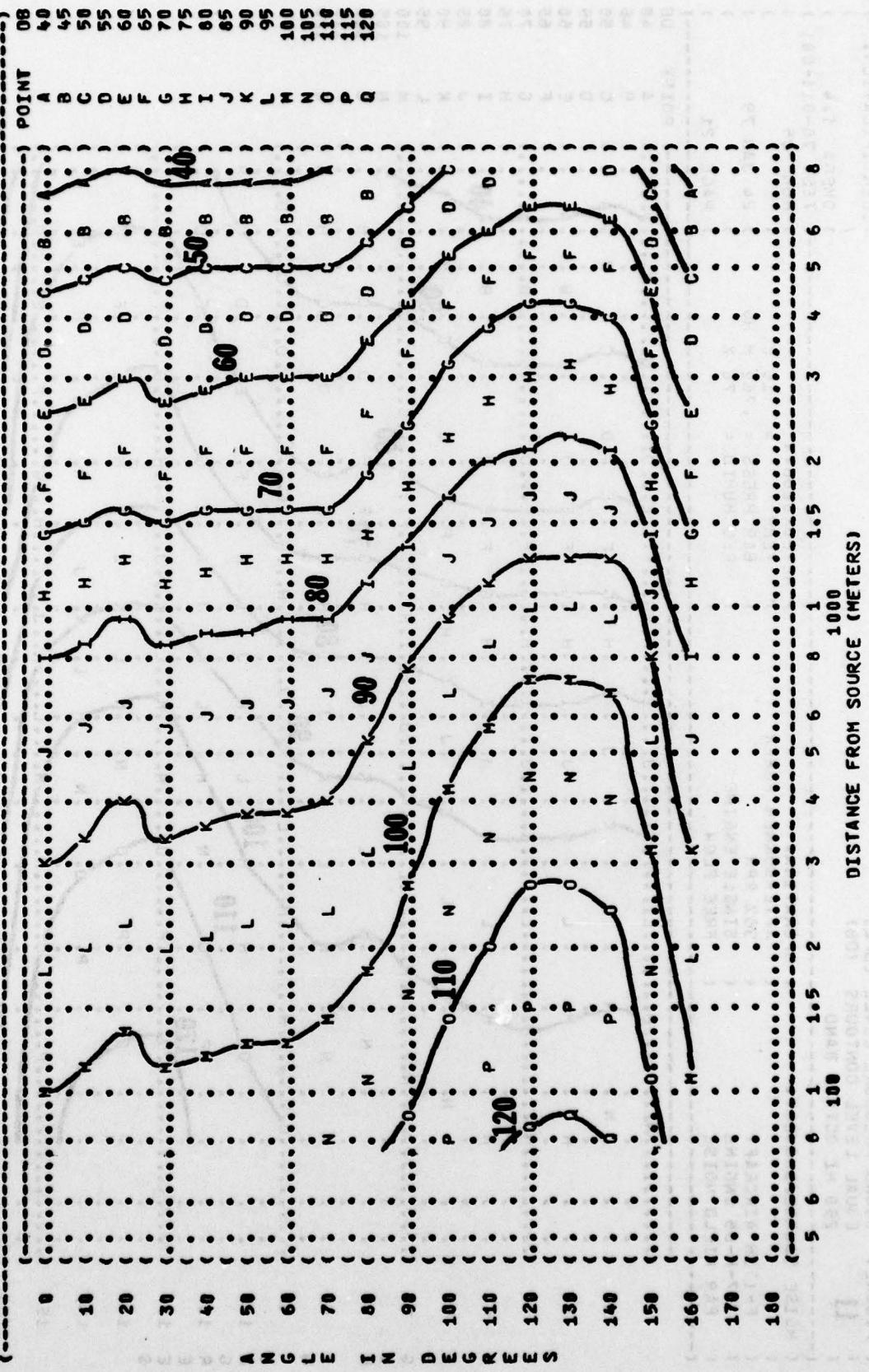


FIGURE: SOUND PRESSURE LEVEL (SPL)
11
 EQUAL LEVEL CONTOURS (DB)
 1000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

OPERATION:
 AFTERBURNER POWER
 96% RPM
 SINGLE ENGINE
 FREE FLOW

METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 Hg
 REL HUMID = 70 %

TEST 78-011-001
 RUN 05

18 SEP 78

PAGE 23

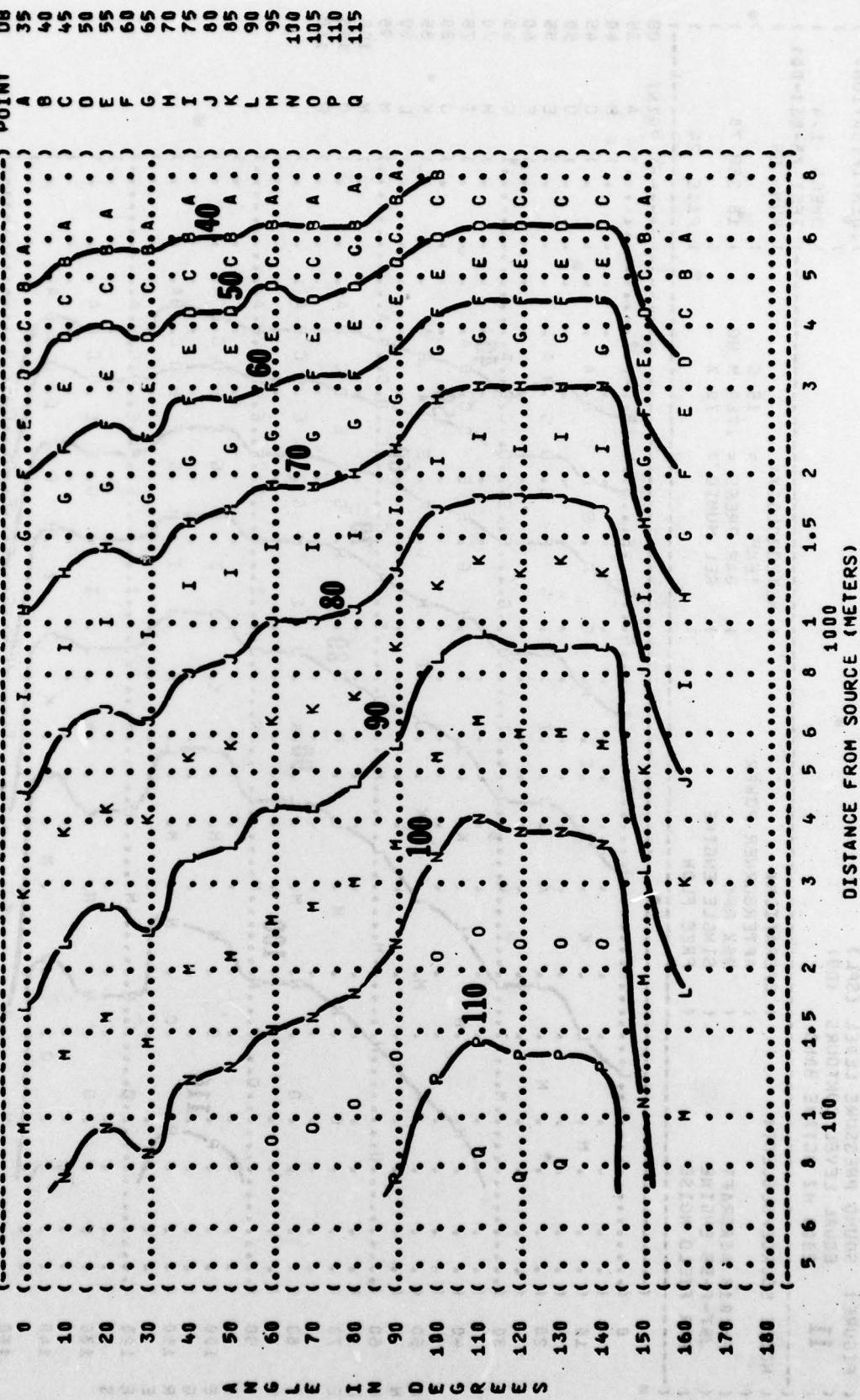


FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (dB)
2000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
JS7-P-55 ENGINE
FAR FIELD NOISE

OPERATION:

AFTERSURNTER POWER
962 RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:
OMEGA 1-4
TEST 78-011-001
RUN 05
18 SEP 78
PAGE 24

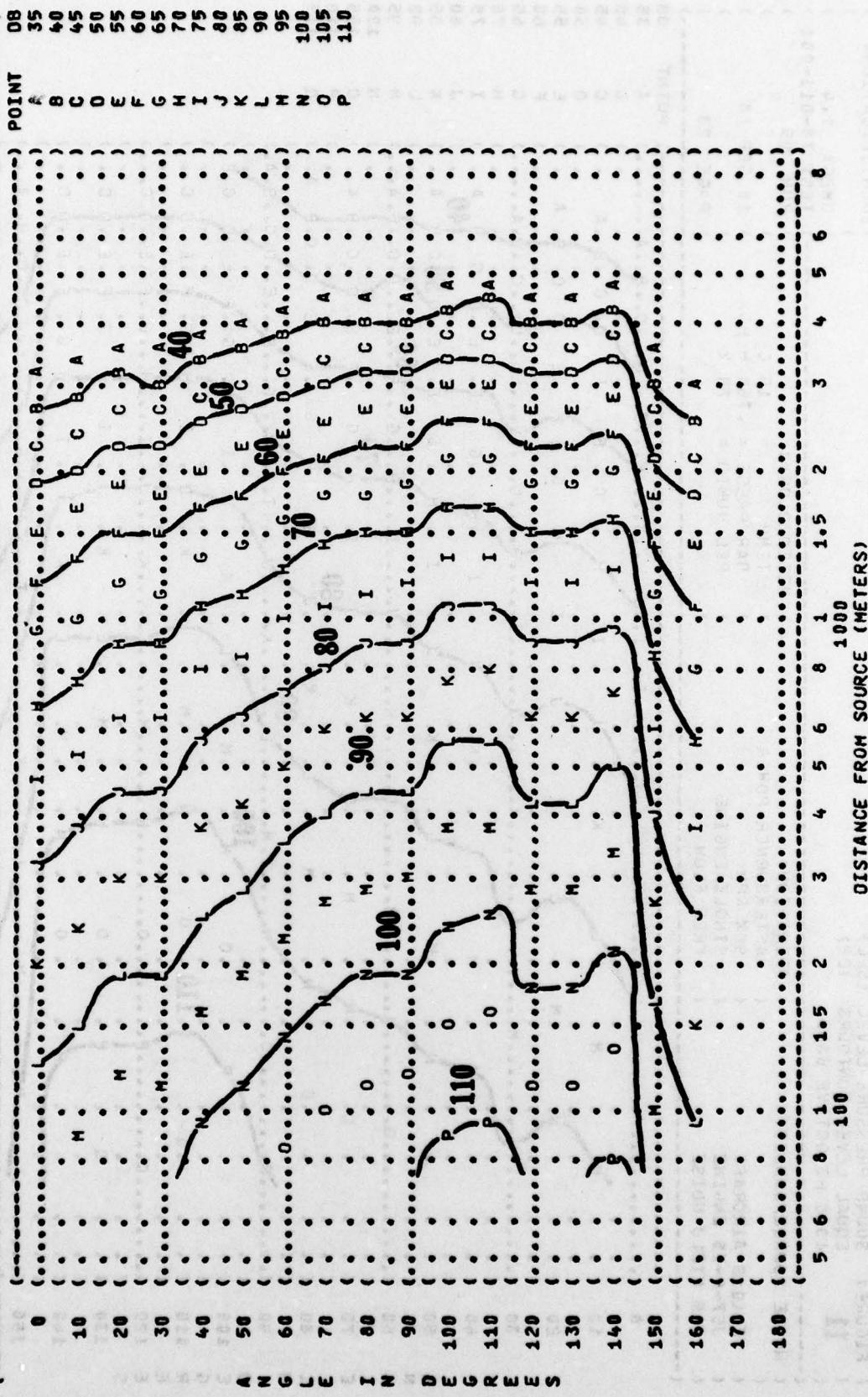


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
11 EQUAL LEVEL CONTOURS
4000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:

- () F-101B AIRCRAFT
- () J57-P-55 ENGINE
- () FAR FIELD NOISE

OPERATION:

- () AFTERBURNER POWER
- () 96X RPM
- () SINGLE ENGINE
- () FREE FLOW

IDENTIFICATION:
OMEGA 1.4
TEST 78-011-001
RUN 05

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 Hg
REL HUMID = 70 %

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POINT 08
A 35
B 40
C 45
D 50
E 55
F 60
G 65
H 70
I 75
J 80
K 85
L 90
M 95
N 100
O 105

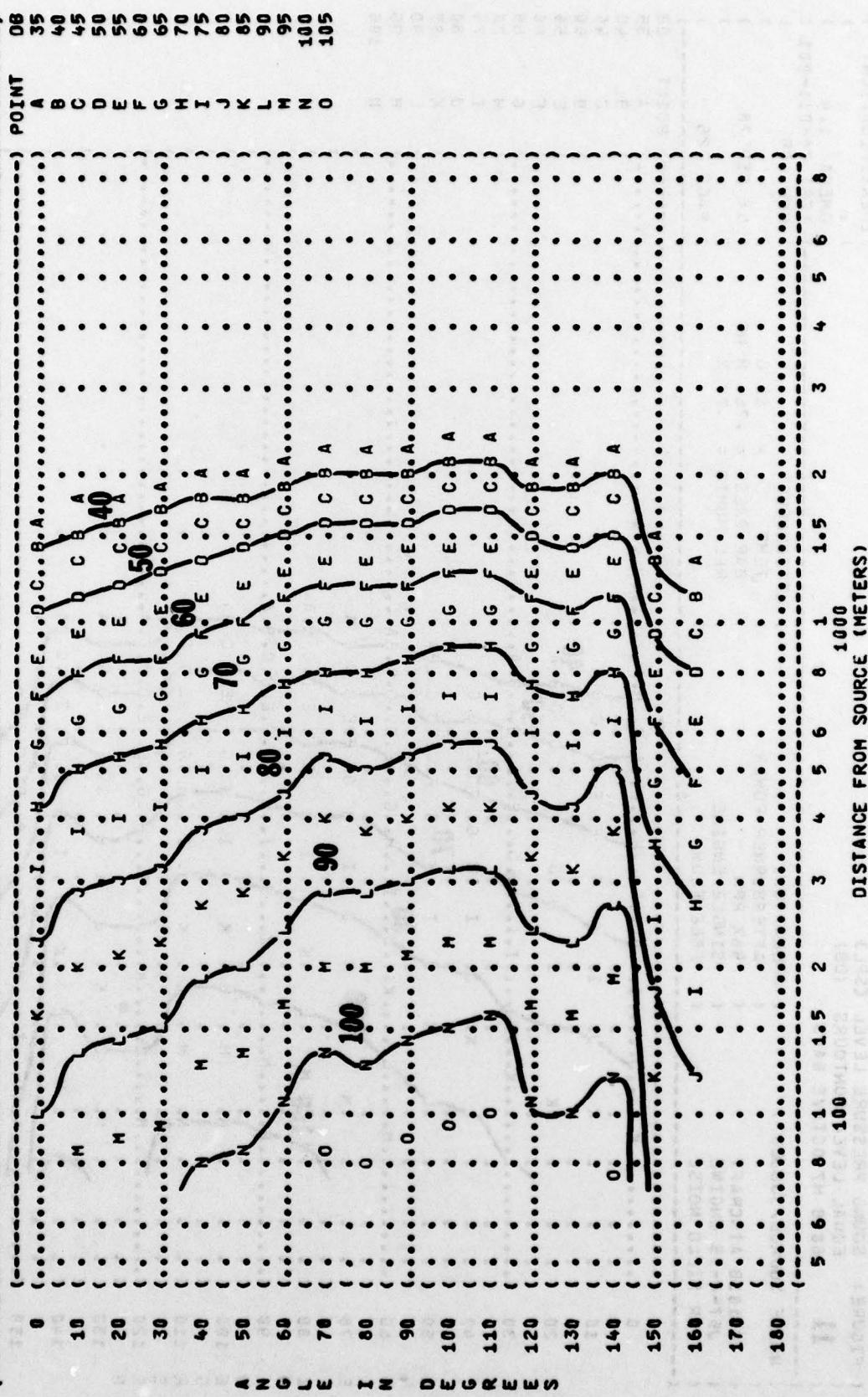


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS
11 8000 Hz OCTAVE BAND

NOISE SOURCE/SUBJECT:
F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:
AFTERBURNER POWER
96% RPM
SINGLE ENGINE
FREE FLOW

IDENTIFICATION:

OMEGA 1.4
TEST 78-011-001
RUN 05

16 SEP 78
BAR PRESS = .760 M HG
REL HUMID = 70 %

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